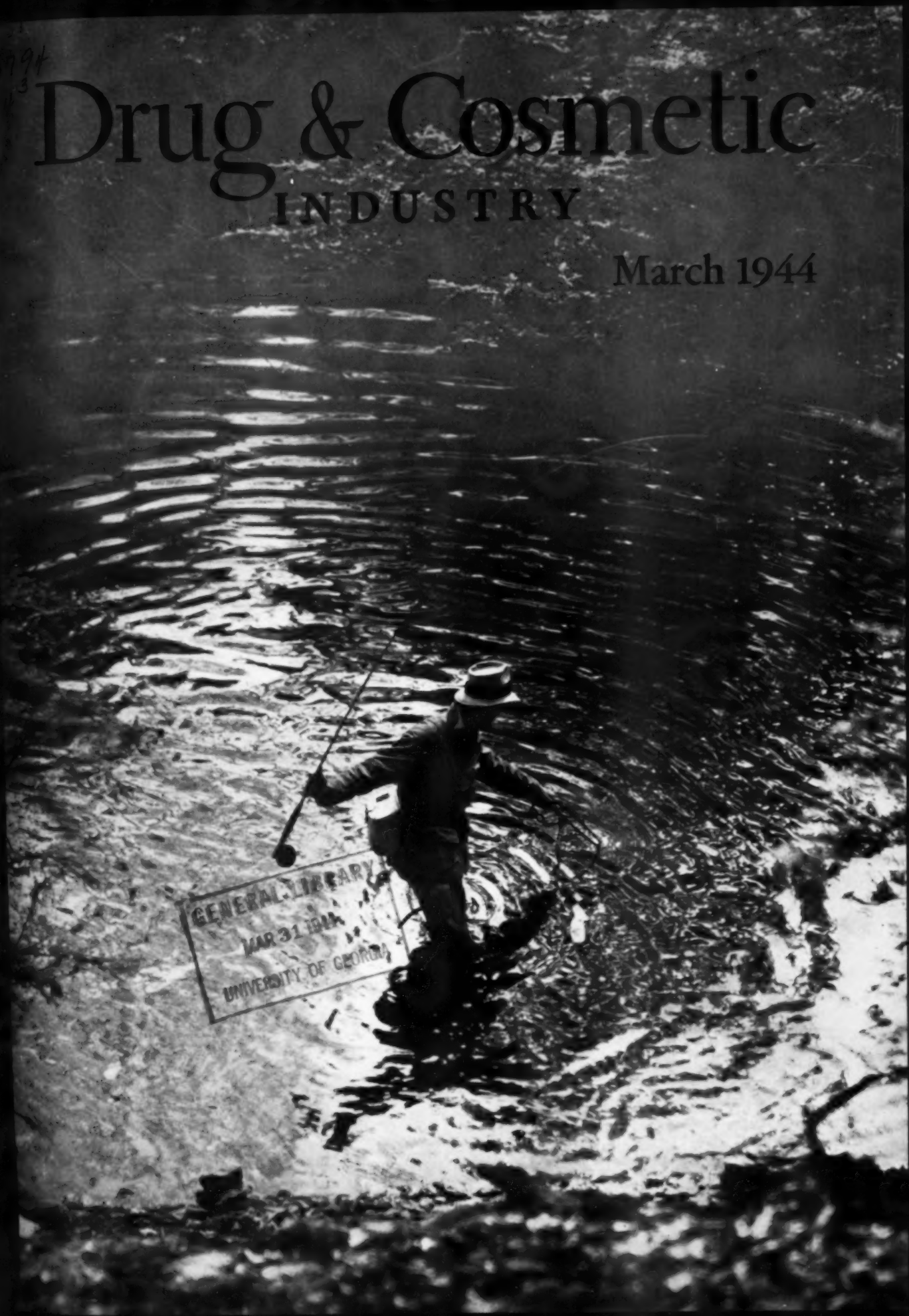
Drug & Cosmetic INDUSTRY

March 1944



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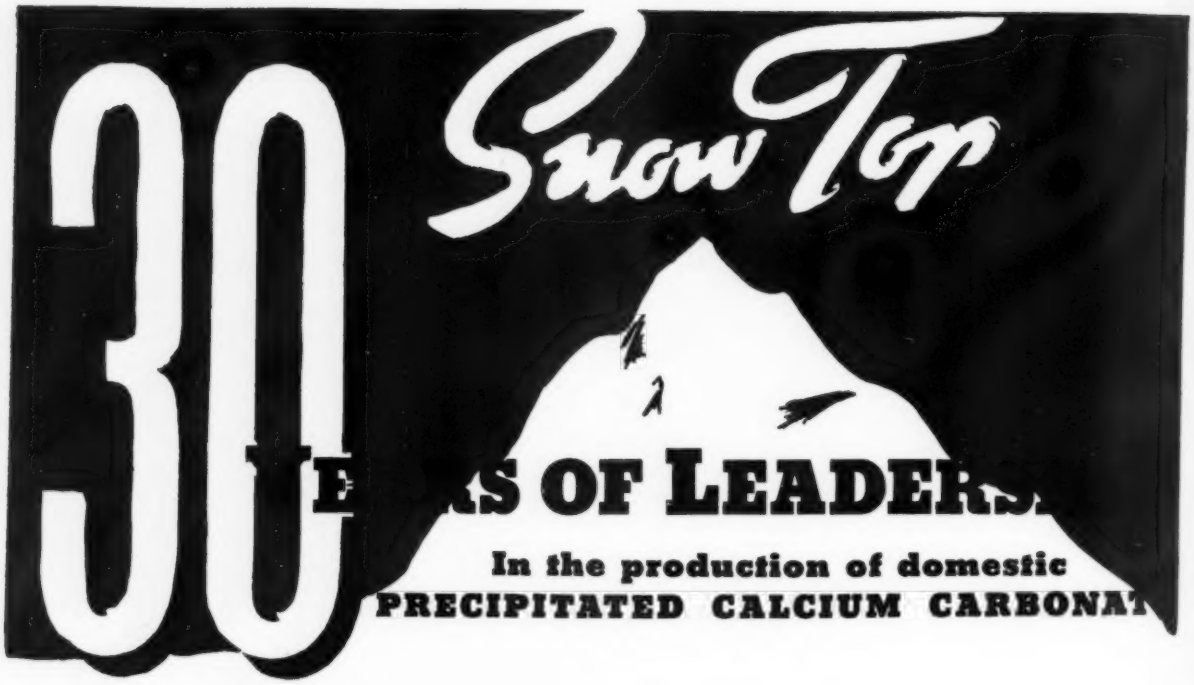

Thirty years ago when we began making Snow Top Precipitated Calcium Carbonate, many obstacles had to be overcome—one of which was tradition. But with the passing of the years, consumers have realized that it is possible to make a domestic product far superior to foreign chalks.

Naturally, we experienced some manufacturing problems, as Snow Top requires careful control. But you would hardly recognize the Snow Top produced thirty years ago as compared with the fine product of today, simply because in the interim we have had thirty years of manufacturing experience and have continually improved our processing to keep abreast of developments within the drug, pharmaceutical and cosmetic industries.

Snow Top Precipitated Calcium Carbonate is not a by-product. It is available in *five* grades, offering consumers a wider base of selection. It is only a matter of fine adjustment to fit Snow Top to your specific requirements.

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WHENEVER you wait for a shipment of tubes beyond the time you should have them, you're doing YOUR bit toward winning the war. For, many of the Sheffalloy Tubes that normally go into civilian use are now packed with vital medicinal and pharmaceutical ointments that are going on convoys to our boys on the battle fronts of the world. We're proud of our contribution to the war. IF, occasionally, you should have to wait for a tube shipment, remember we are eager to serve you just as quickly as we can!

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Drug & Cosmetic INDUSTRY

MARCH 1944

CONTENTS

KEEPING POSTED	273
DRUG PRICE CUTTING	278
THE POST-WAR SCRAMBLE	279
COSMETIC CREAMS	281
USEFUL BASES FOR SULFA DRUGS	283
CAKE MAKE-UP	285
PERFUME MATERIALS IN THE WAR	287
PACKAGING AND SELLING	289
NEWS	299
INDUSTRY'S BOOKS	309
PRODUCTION FORUM	311
PERFUMERS' SHELF	324
COMPOUNDER'S CORNER	327
ADVANCING THERAPY	331
PURCHASING DEPARTMENT	335
READERS' QUESTIONS	342

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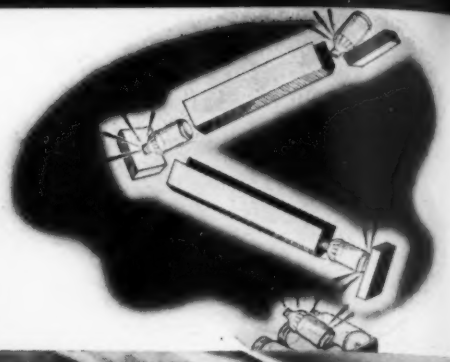
"COMMANDO COURSE" FOR BOTTLES

Tests like this are part of research's constant efforts to make better glass



GLASS research isn't all chemical equations and mathematical formulae. Armstrong's research men devote considerable time to physical testing of our product. Many of the tests are in addition to the usual procedure and are hard-boiled, practical affairs that subject the glass to more severe conditions than they would be subjected to in actual use.

For example, when Armstrong's Laboratories wanted some additional data on the mechanical strength of certain bottles, they built what could be called a "Commando Course" for bottles. Starting at the top of this structure, the bottle first dropped a foot and banged its shoulder against a hard block.

Then it raced four feet down a steeply inclined chute and smacked its finish against another hard block. Four feet down another chute, it bounced its bottom against a block, dropped a foot, and rolled on its sides three feet down an inclined "washboard" made of bottles. After each "run," the bottle was given a thermal shock by immersion, first in hot and then in cold water.

There weren't many unanswered questions about the ability of Armstrong's Bottles to "take it" after each one had been subjected time and again to this gruelling ordeal!

Practical, thorough tests like this are typical of the research constantly being conducted by Armstrong's chemists, physicists, and engineers. Their active interest in the practical as well as the theoretical aspects of glass production is one of the big reasons why Armstrong's Glass has been, and will continue to be, top quality.

Further interesting facts about the patience, skill, and experience devoted to the making of fine glass are presented in Armstrong's booklet, "Men and Glass." For your free copy, write to Armstrong Cork Co., Glass and Closure Division, 3803 Prince St., Lancaster, Pa.

ARMSTRONG'S GLASS

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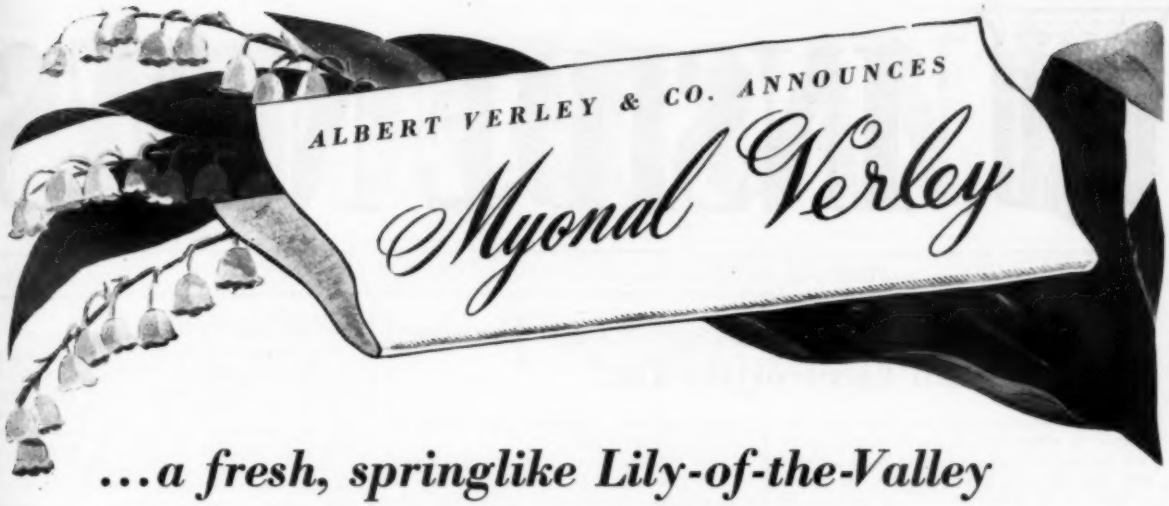

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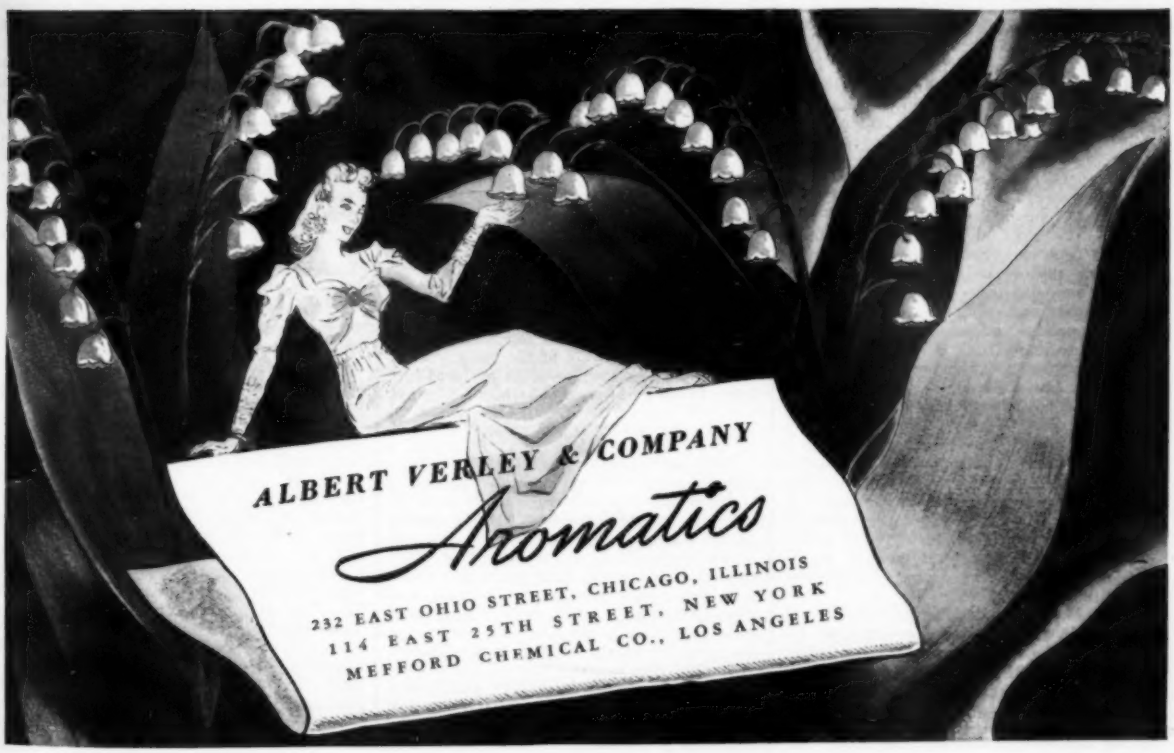
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INSIDE NEWS

MARCH PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1944

Are You Going To Package Your Product In Electrolytic Tin?

There is evidence that war-time cans, tin-coated by electrolysis for a 67% tin saving, will be used to package certain non-processed and non-corrosive products after the war.

How many products will be able to be packaged in electrolytic plate, however, depends on the cost and efficiency of the weight of electro-tin coating required, when compared to the cost and efficiency of hot-dipped plate.

Research for tin conservation was being carried on by can manufacturers long before Pearl Harbor. When 92% of our tin fell into Japanese hands, research was accelerated; a committee for tin conservation was set up by the Can Manufacturers Institute; and tin plate made by electro-deposition became the foundation of the present supply of tin cans for essential needs.

The efficiency of electrolytic tin has been carefully analyzed for packaging many individual food products, in relation to the electrolyte employed, the enameling required for corrosion-resistance, vacuum-persistence and relative costs of plain electrolytic and hot-dipped plates, melted and unmelted. Conclusions are by no means final today, but results and tables relating to specific products are available on request.

In general, the earlier disadvantages of inside-enameled electrolytic plate have been partially overcome by suppliers in developing processes to *melt* the tin coating. The results have been apparent in better corrosion resistance, solderability and appearance.

Testing for corrosion-resistance and vacuum-persistence of tin cans is a painstaking process, involving many variables. The most common technique is to test hot-dipped tin cans against plain, melted, brushed and chemically-treated electrolytic tin, with various weights of coatings, on similar and dissimilar steels, at different temperatures and containing different products, throughout various storage periods. In addition, exacting tests have been made of the performance of enameled electrolytic ends and enameled bonderized steel ends on the various electrolytic and hot-dipped bodies.

Tests are based on the fact that corrosion creates hydrogen which gradually dissipates the vacuum in the container. A "flip vacuum" testing device is used to apply external vacuum to the end of the can; the amount of external vacuum required to flip open the end measures the amount of hydrogen, and hence the degree of corrosion, that has taken place.

Perhaps the most interesting test-result to be considered in choosing a container for the immediate future is the good behavior of tin cans with enameled electrolytic ends on plain, hot-dipped bodies, when containing acid fruits such as cherries, peaches and apricots. Good results are attributed to the presence of stannons ion in the corroding medium, retarding the attack on the steel of tin plate.

Since this combination saves approximately 50% more tin, and performance tests are encouraging, experimental packs are being tried this year, with enameled electrolytic ends and plain, hot-dipped bodies. Next year, such containers may be used on a large scale for some fruit products.

All in all, the efforts made to overcome the war-caused tin shortage have resulted in progress which, as in the case of much war-time research, will bring cost-savings and better values to post-war users of tin containers; in addition to the well-known packaging advantages of safe, economical, vacuum-preserving, tin-coated steel. 579

Tin-Nickel Cans

Metal cans thinly coated with tin on top of nickel may be a suitable replacement for heavier coated tin cans, laboratory tests indicate. Five canned foodstuffs were used to test the nickel-tin coating, these being dried prunes in sirup, sauerkraut, tomatoes, spinach and peas—selected as typical of the corrosive conditions encountered in tin cans.

For these tests the nickel-tin coatings were obtained by plating first the nickel and then an equal thickness of tin, and heating at 575 deg. F. for six to eight minutes. A suitable coating thickness has been determined. 580

Apple Ethylene

When apples of different degrees of ripeness are stored together, ethylene given off by the ripe ones accelerates the ripening rate of the others. However, there is no effect by one lot on another when both lots are at the same stage of ripeness. This effect is important, because as much as 50 per cent of the storage life of the less-ripe fruit may be lost, an average of 25 per cent loss being found in a series of tests. 581

"Boraxed" Spinach

More rapid growth in increased yields of spinach were obtained by the application of borax on boron-deficient soils in a southern state according to tests made recently. There was one drawback to the effect of boron applications, so far as spring sown spinach is concerned, however. It was found that very rapid growth was induced and that seed-stalks formed early. Early seed-stalk formation is not desirable because of the need for careful timing of the harvest. This character is less likely to be troublesome in fall-planted spinach. A publication telling the rates of application and showing the location of boron deficient soils in the test state is available. 582

Salt-Brine Peeler

One canner with a continuous dehydrating unit has developed a salt-brine peeler for potatoes which he claims is giving exceptionally fine results in the finished product. Salt-brine peeling is an innovation and differs from both lye peeling and steam peeling, although the equipment used is virtually the same as for lye peeling. Potatoes, after rough washing, are passed through a saturated salt-brine solution at 228 degrees F. for about six minutes. The skins are loosened sufficiently so that pressure sprays remove virtually all the peel and the remainder, with the eyes, are taken off at the trimming table. The canner believes the salt treatment aids materially in turning out a good-colored product. Whether because the salt halts enzyme action prior to blanching, or because of the speed with which the product is handled, it is a fact that the dehydrated potatoes coming off this canner's line are exceptionally white and free from the yellowing that gives trouble to some other processors. 583

Milk! More Milk!!

In periods of increased demand for milk, dairy herds may be induced to step up the volume of production within a relatively short time by heavier feeding of the cows without danger to the animals. This fact was reported following tests made in Pennsylvania on a mixed herd of 22 Brown Swiss and Holsteins. Dairymen usually feed not more than one pound of grain for three pounds of milk produced daily by the cow. It was found in the feeding tests that this ratio could be increased to one pound of grain for each 1.75 pounds of milk before the law of diminishing returns took effect to raise feed costs above the average per pound of milk yielded. 584

Rehydrated Foods

The palatability and color of rehydrated, cooked dehydrated foods is affected considerably by the time of soaking before cooking, and retention of vitamin C is affected by the same factor, according to results of recent laboratory tests. Experiments with dehydrated potatoes, rutabagas, cabbage, beets and turnips showed that very weak flavor and poor color resulted from soaking for longer than an hour, and that half-hour soaking was about the limit before changes began to be noticeable.

It was reported that Vitamin C was lost in direct ratio to the time of soaking. The type of packaging appeared to have little effect on the final results.

Storage conditions had little effect on the palatability of dehydrated beets, but was found to have a marked effect on the palatability of cooked, unblanched dehydrated cabbage. A full account of the experiments, with comments on flavor, color and Vitamin C retention, is available. 585

NATIONAL CAN

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Fuel Tanks

Specially-formed tanks are now being used on British aircraft as auxiliary fuel containers. Known as jettison tanks, since they can be discarded when necessary, the tanks enable the planes to carry extra gasoline for long-range activity. The tanks are formed from a particular combination having weight and leak-prevention qualities. 586

Pigments—Acid Reaction

Recent new data on the changes that take place in the color and ascorbic acid content during storage of deaerated and pasteurized juices from highly pigmented small fruits indicate the possibility that a reaction occurs between the pigments and the ascorbic acid. This would explain the loss of color in the juice and the decrease in ascorbic acid content. It has been found that increasing the concentration of ascorbic acid or its isomer increases the rate of change of color as well as the rate of vitamin loss. 587

Enamel Required

Recent tests indicate that No. 1 oval cans manufactured from 1.25 hot dipped plate are not satisfactory for use in packing pilchards in tomato sauce for the War Food Administration, unless the cans are inside enameled. So the canning industry has been requested to use inside enameled oval can bodies on all deliveries of canned pilchards to the Federal Surplus Commodities Corp. as soon as the cans are obtained. 588

Fat-Oil Stabilizers

Fats and oils may be stabilized by the addition of several different substances, according to a series of patents recently issued. One patent covers the addition of a small amount of ascorbic acid and of small amounts of tocopherol-type compound. A second patent specifies the addition of small quantities of naphthols, quinones or quinol compounds; a small amount of ascorbic acid; and a small amount of a vitamin E precursor compound. A third patent covers the use of a small amount of caffeic acid, and a fourth, small amounts of hexuronic acid and cyclic oxy compound. 589

Fish Supply

More than 10,500,000 pounds of fish that ordinarily would have been wasted in peacetime have gone into consumer channels since the Massachusetts Committee on Increased Utilization of Food Resources began operating in co-operation with the Massachusetts Fisheries Association just over a year ago.

This has been announced recently in a report.

At least six varieties of fish previously unknown to home-makers have been added to wartime menus, including ocean pout, alewives or river herring, mussels, raja fish, angler fish and rosefish roe. 590

Technical Topics

CAMPHOR DOUBLES SIZE—Camphor has been found useful in the production of food yeast. The organism *Torulopsis utilis*, used in the microbiological synthesis of protein, has in the past proved troublesome, since its cell size is so small as to enable passage through the filter cloth in the final separation process. English workers have found that the addition of a small quantity of camphor to the growing media doubles the size of the cells and thereby improves filtration. 591

NAVY LACQUER DYES—Navy blue lacquer dyes are claimed to be formed by coupling diazotized aryl-azo-anilines containing acidylamino groups in the aniline nuclei with aromatic amines capable of coupling in the para position to an amino group which carries at least one substituent. The dyes are also specified as suitable for cellulose acetate spinning solutions. 592

SCUM CONTROL — Tests have been made to determine the value of certain essential oils in controlling the development of scum formations on the surface of fermenting foods and beverages. Several were found to have value. 593

LICORICE — Licorice from California now being shipped East in early carloads, will be used to lessen our dependence on foreign countries. Planted wild in 1870, the root has flourished but until now has never been harvested. 594

SKIN PROTECTOR — A waterproof cream formulated to protect any part of the body against certain acids, alkalis and caustics in dry and aqueous forms, as well as miscible cutting compounds, is available to combat industrial dermatitis, or for home, garden or office use. Said to resist penetration of 20% sulfuric or nitric acids. Hot water is the dispersant. 595

SALT WATER BREAD—When in a spot where neither fresh water nor salt is available, U. S. Army bakers can produce bread if they're near the sea. Quartermaster Corps laboratory tests, substituting sea water for fresh water and salt, have developed a satisfactory bread formula. 596

KRAUT CANNING—Dark color, pink kraut or soft kraut stem from salt variation and distribution through shredded cabbage, it is claimed. The kraut problem of canning in large containers for the Armed Forces has been aided by a pre-heated tank method. 597

FRUIT COLOR — Canners and other processors of fruit products will hail the possibility of inhibiting the discoloration of freshly-cut fruit by treatment with a thiomide solution and freezing. 598

DEXTROSE SWEETNESS—The sweetening power of the corn sugars in ice cream is revealed as considerably higher than previously published values, according to a recent study. 599

WALNUT "C"—A high content of ascorbic acid (Vitamin C) has been found in hulls of certain American walnuts as they approach maturity. The acid exceeds that in rose hips, where its discovery caused much interest here and abroad last year. 600

ETHYL BROMIDE—Suggested in New Zealand as a fumigant for cheese. The agent is declared to satisfactorily control cheese mites without detrimental effect on the flavor of the treated cheese. 601

PEAT WAX—Offers possibilities as a replacement product for carnauba, montan, and bees wax, it has been found in recent investigations by the Imperial Institute. A benzene extraction method was employed to obtain the wax, which amounted to about 10 percent of the air-dried weight of the peat. Peat may possibly become a major industrial raw material. The recent discovery of the almost complete solubility of peat in tetralin opened great possibilities. 602

MERCURIATED CARVACROL DERIVATIVES—Found to be very effective in combatting the pathogenic fungi responsible for athlete's foot. Best results were stated to have resulted when the compound was administered in a water-soluble paste, in combination with salicylic and benzoic acids. 603

BUTTER MOLD RETARDANT—Wrappers specially impregnated are said to retard mold in butter and cheese in Canadian experiments. 604

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

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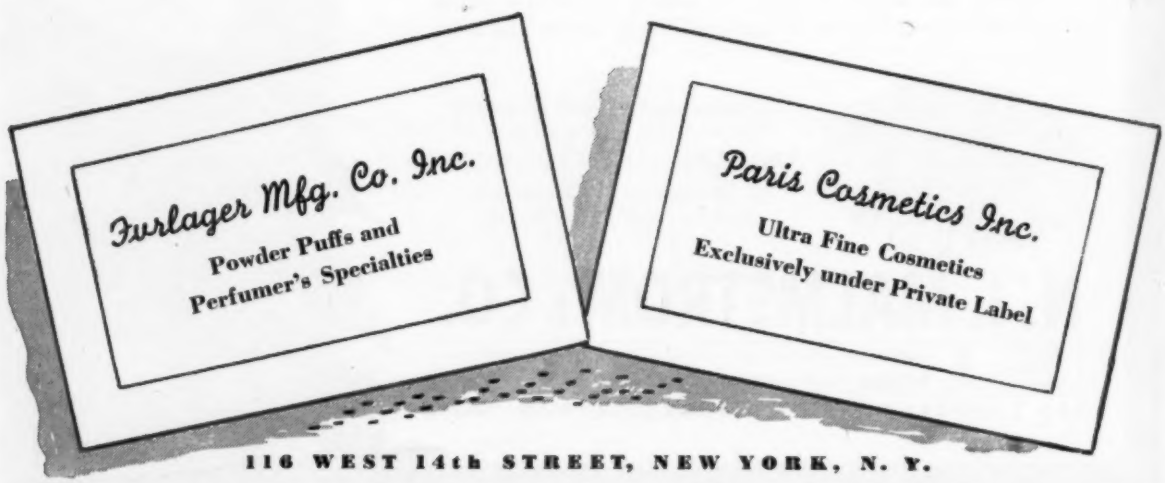

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CITY STATE

ATLAS INDUSTRIAL CHEMICALS DEPARTMENT

CHEMICALS ATLAS EXPLOSIVES

ATLAS POWDER COMPANY, Wilmington 99, Del. • *Offices in principal cities* • *Cable Address—Atpowco*

AMERICAN MADE LIQUID RESINS

•

PRODUCED AT OUR FACTORY
IN BROOKLYN, N. Y.

BALSAM PERU	LABDANUM	OPOPONAX
BALSAM TOLU	MACE	STYRAX
INCENSE	OLIBANUM	TONKA

★

G. L. Liquid Resins possess unusually strong odor value with very definite and, intense characters. Being soluble in both alcohol and oils they are easy to handle.

In the absence of various aromatic substances so necessary to the perfumer, G. L. Liquid Resins are finding many new and important applications in perfumery.

In addition to their standard qualities of fixation they may also be employed to establish or develop the actual basic key note of a fragrance.

Samples on request.

George Lueders & Co.

427 WASHINGTON STREET, NEW YORK 13, N. Y.

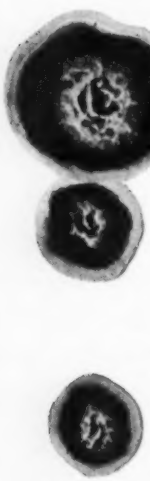
BRANCHES • CHICAGO • SAN FRANCISCO • MONTREAL

REPRESENTATIVES: ST. LOUIS—PHILADELPHIA

Essential Oils ◆ *Aromatic Chemicals* ESTABLISHED 1885 *Perfume Materials* ◆ *Colors*

From green mold

—*a new weapon against death*



From the green mold that forms on bread and cheese, science has evolved a new bacteriostatic agent of extraordinary potency . . . ***penicillin,*** regarded as one of the most striking medical developments since the introduction of the sulfa drugs.

In the production of penicillin, *air conditioning and refrigeration* play essential roles at three important stages . . . maintaining correct temperature and humidity for production of the mold; providing low temperatures which prevent destruction of the drug while in solution; and speeding the dehydration of the solution.

Since penicillin production is relatively new, no standard process has yet been adopted. Hence air conditioning and refrigeration installations are usually individually designed. Here is *one* of the reasons why penicillin manufacturers turn to G-E . . . pioneers in adapting air conditioning and refrigeration to an almost endless list of industrial uses.

If industrial air conditioning or refrigeration can help you in war production today, or in postwar production tomorrow, turn to G-E with confidence . . . for engineering advice and for equipment of proven quality.

☆ BUY WAR BONDS ☆

General Electric Company, Air Conditioning and Commercial Refrigeration Divisions, Section 441, Bloomfield, New Jersey.

Industrial Refrigeration by

GENERAL ELECTRIC

Hear the General Electric Radio Programs: The "G-E ALL-GIRL ORCHESTRA," Sundays 10 P. M., EWT, NBC..."THE WORLD TODAY" News, Every Weekday, 6:45 P. M., EWT, CBS

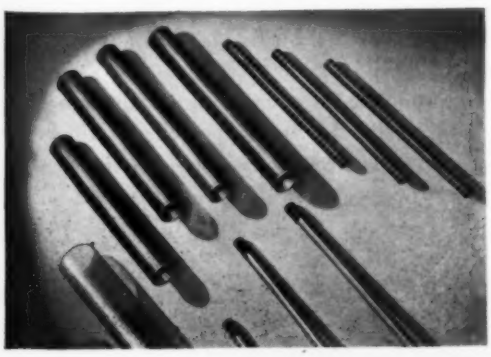
PIONEERS IN PLASTICS

1919 — 25TH Year — 1944

Shatterproof SEAMLESS Containers

Clearsite* has long maintained top-ranking reputation for exceptionally attractive containers. Lustrous colors, transparent or opaque, these shatterproof, *safer* Clearsite containers have been widely used in many fields.

EXTRUSION MOLDED RODS, TAPE, TUBES, SHEETS, and other FORMS



FLEXIBLE OR RIGID, solid or hollow, made in continuous lengths in opaque or transparent Thermoplastics. Made in a wide variety of dimensions.

INJECTION MOLDING. A division devoted entirely to injection molding of all types of Thermoplastics, including cellulose acetate, ethyl cellulose, cellulose acetate butyrate, methyl methacrylate, vinyl resins, tenite, etc.

Our technicians are available for consultation.

* Registered U. S. Pat. Off.

CELLUPLASTIC CORPORATION

FIRST IN CELLUPLASTICS

HYCOLOID-CLEARSITE

60 AVENUE L — NEWARK, N. J.

Putting B_1 in America's Bread

How Synthetic Organic Chemicals Are Helping To Solve A Nutrition Problem

27,000,000 loaves of bread a day enriched with synthetic Vitamin B_1*... this is now the biggest use for this man-made vitamin first synthesized just a few years ago.

The commercial production of Vitamin B_1 requires adequate quantities of Ethylene Oxide and Ethyl Acetoacetate. Fifteen years ago these, too, were rare chemicals.

In 1929, we began commercial production of Ethylene Oxide. In 1932, we began synthesizing Ethyl Acetoacetate by a new and economical method. Now these chemicals are available in quantities and at prices which permit their use in large-scale vitamin production.

Other vitamin products have also benefited from the availability of low-cost, high-quality synthetic chemicals. Vitamins A and D are extracted from fish liver oils with Ethylene Dichloride. Propylene Glycol is a solvent for crystalline Vitamin D. Acetone is used in the synthesis of Vitamin C, and Acetic Anhydride for Vitamins B_2 and B_6.

Vitamin production is one example of the many industries which have depended upon the broad group of synthetic organic chemicals we produce. If you have a problem involving these chemicals, call on us.

*Vitamin B_2, niacin, and iron are added as well.

BUY UNITED STATES WAR BONDS AND STAMPS

CARBIDE AND CARBON CHEMICALS CORPORATION

Unit of Union Carbide and Carbon Corporation

UCC

30 East 42nd Street, New York 17, N. Y.

PRODUCERS OF SYNTHETIC ORGANIC CHEMICALS

Aladdin's Lamp

Almost as fast as it took Tojo to say, "So sorry,—no more Oil Cassia from China," the M M & R laboratories flung the answer back in Tojo's teeth by announcing IMITATION OIL CASSIA M M & R.

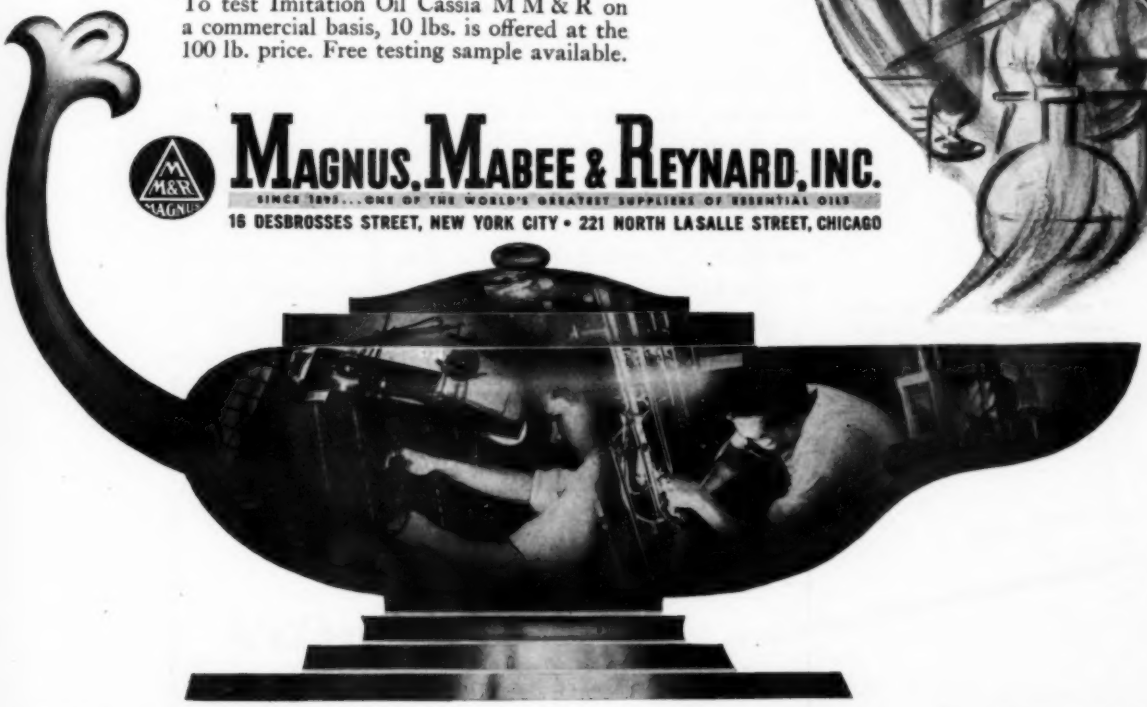
True, this was a product of the laboratory, *the Aladdin's Lamp of modern times*, but it was no story-book miracle.

The fortunate and timely introduction of this truly remarkable replacement was the result of months of difficult work, countless experiments, long hours of meticulous testing, and positive proving in actual usage by an interested group of diversified manufacturers.

Now M M & R is proud to offer Imitation Oil Cassia M M & R. Its Cassia characteristics are extraordinary and its flavoring strength comparable to the natural product so that it can be used pound for pound in your formulae. Important, too, is that it is priced at less than one-quarter recent quotations of Oil Cassia Redistilled U S P.

imitation
OIL CASSIA MM&R

To test Imitation Oil Cassia M M & R on a commercial basis, 10 lbs. is offered at the 100 lb. price. Free testing sample available.



MAGNUS, MABEE & REYNARD, INC.

SINCE 1895...ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS

16 DESBROSSES STREET, NEW YORK CITY • 221 NORTH LASALLE STREET, CHICAGO

San Francisco: Braun, Knecht, Heimann Co. • Los Angeles: Braun Corp. • Seattle, Portland, Spokane: Van Waters & Rogers, Inc. • Canada: Richardson Agencies, Ltd., Toronto.

Today It's "Over *the Top" with*

DODGE TAPER CORKS

SHORTAGE of wood for wood top corks has made the wartime closure situation more acute.

To meet your packaging needs in this emergency, Dodge can give you prompt delivery on tight-sealing, uniform, true to grade DODGE TAPER CORKS. Cork is unrestricted. Standard size taper corks are available in any quantity you need.

Dodge taper corks have excellent sealing qualities and are the most practical closure for many purposes. However, Dodge Milbossed top corks offer additional advantages of individualizing the package . . . giving it sales appeal. To those manufacturers who normally prefer Milbossed top corks, we recommend taper corks only as an alternate until Dodge Milbossed top corks are again available.*

*A new Dodge Milbossed top cork, using an alternate for wood, will soon be available. While we are perfecting this new closure, you can rely on our facilities for quick delivery of taper corks to carry you through the present emergency.

DODGE CORK COMPANY, INC., LANCASTER, PA.

DODGE CORK *Closures*

Designed to Guard the Integrity of the Contents

ANNOUNCING OUR
ANNOUNCING OUR
OIL VETIVERT
ANNOUNCING OUR
OIL VETIVERT
SUBSTITUTE
ANNOUNCING OUR
OIL VETIVERT
SUBSTITUTE
ANNOUNCING OUR
OIL VETIVERT
SUBSTITUTE
PRICE $20.00 PER LB.
WRITE FOR TESTING SAMPLE
P. R. DREYER INC.
119 WEST 19th STREET
NEW YORK 11, N. Y.
ESSENTIAL OILS
AROMATICS

Staff Allen's

English Distilled Oils

Stafford Allen & Sons Ltd.,
LONDON, ENGLAND

CLOVE
LAVENDER
NUTMEG
ORRIS
PATCHOULY
PEPPERMINT
SANDALWOOD

BRITAIN DELIVERS
THE GOODS

The Markets of the world accord highest honors to these valuable distilled oils

AMERICAN REPRESENTATION BY

UNGERER & CO.

161 SIXTH AVE., NEW YORK, N. Y.

Sales Branches
PHILADELPHIA
CHICAGO
BOSTON
ST. LOUIS
SAN FRANCISCO
LOS ANGELES
TORONTO

OPPORTUNITY
for Pharmaceutical Manufacturers!

. . . The Nation's Press Continually Reports New Triumphs For SULFADIAZINE. Let CALCO Help You Profit From This Popularity.

CALCO'S large scale production of Sulfadiazine (see illustration of stock awaiting shipment) now permits supplying of civilian demands as well as those of armed forces.

Sulfadiazine Cures Resistant Malady

Ends Actinomycosis Which Had Defied Other Drugs

Chicago—Sulfadiazine treatment abruptly terminated a stubborn case of actinomycosis, according to authentic reports recently made public here.

The disease had grown progressively worse for over a year before the Sulfadiazine treatment was started with one gram doses by mouth every four hours. A week later the quantity was cut to 1 Gm. four times a day. This dosage was maintained for the duration of the treatment, 120 consecutive days.

Two Weeks Required

It was fully two weeks before any noticeable improvement in the lesions could be observed. However, in the ensuing weeks, the abscesses disappeared and the scars actually dissolved, leaving the skin practically in a normal condition after physician and patient had almost despaired.

The urine and blood, checked at frequent intervals, remained normal during the treatment.

SULFADIAZINE has demonstrated its unusually high effectiveness and low toxicity in the treatment of pneumonia, pneumococcic infections, and hemolytic streptococcus and staphylococcic infections. That's why its popularity as "The Drug Of Choice" for these uses is mounting steadily.

Endorsed by the Surgeon General's office for the armed forces, Sulfadiazine, it is conservatively estimated, has been employed in the treatment of more than 6,000,000 cases in the comparatively short time since its introduction.

Now that Calco is able to supply this famous chemotherapeutic agent for civilian use, it is available to all ethical pharmaceutical manufacturers. It is the drug of choice to meet the demands of the increasing market for sulfas.

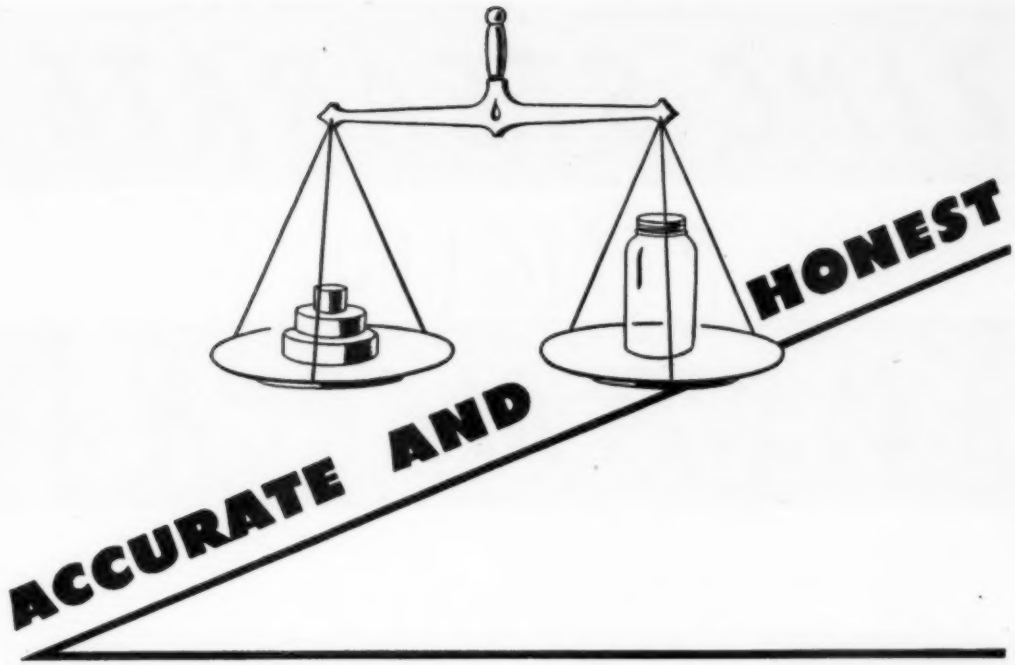
Other CALCO Products:

Sulfapyridine U.S.P.
(and Sodium Monohydrate)
Nicotinamide U.S.P.
Nikethamide
Sulfanilamide U.S.P.
Cinchophen N.F.
Neocinchophen U.S.P.
Sulfathiazole U.S.P.
(and Sodium Monohydrate)
Mandelic Acid U.S.P.
Methylene Blue U.S.P.
(Powder—Crystals)
Calcium Mandelate U.S.P.
Glutamic Acid HCL
Calcium and Sodium Pantothenate
2-Methyl-1, 4 Naphthoquinone
Phenothiazine
(For Veterinarian Use)

ARMY E NAVY

Pharmaceutical Department
CALCO CHEMICAL DIVISION
AMERICAN CYANAMID COMPANY
BOUND BROOK Calco NEW JERSEY

High Fashion
COLORS
On the lips
of the most
beautiful women
in the world.
"Inquiries solicited"
certified
COSMETIC COLORS
for LIPSTICK, ROUGES
NAIL POLISHES
INORGANICS • TITANIUM DIOXIDE
Ansbacher-Siegle
CORPORATION
Manufacturers of Fine Chemical Pigment Colors
General Offices, Works and Laboratories
ROSEBANK, STATEN ISLAND, NEW YORK, N. Y.
Boston, Chicago, Los Angeles, Cleveland, Detroit, San Francisco,
Richmond, Toronto, Can.



You may have heard of Carr-Lowrey quality. For years it has been the source of favorable comment among manufacturers interested in glass containers of outstanding excellence.

Like all other features of Carr-Lowrey craftsmanship, the distinctive character of Carr-Lowrey containers results from the thoroughly accurate and honest way they are engineered. In designing, model making, and processing, every detail is accorded the most painstaking care and consideration.

Manufacturers of drugs, cosmetics, food and household products who wish to give their package additional point-of-sale sparkle, will find Carr-Lowrey quality worth investigating.

Particularly during the keenly competitive post-war years ahead will Carr-Lowrey quality aid in accelerating sales by intensifying consumer interest.

CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE, MD. *New York Office:* 500 FIFTH AVENUE *Chicago Office:* 1502 MERCHANDISE MART

ZINC STEARATE

U.S.P. MERCK

Other materials available for use in powders are:

★ ★ ★

MAGNESIUM CARBONATE U. S. P. POWDER MERCK

CALCIUM CARBONATE U. S. P. PRECIPITATE MERCK

KAOLIN N. F. and KAOLIN COLLOIDAL N. F. MERCK

ZINC OXIDE U. S. P. MERCK

Quotations and samples will be furnished to manufacturers on request.

★ High quality ZINC STEARATE U.S.P. MERCK is still available for incorporation into first grade powders.

Manufactured from best quality *Triple-Pressed Stearic Acid,* ZINC STEARATE U.S.P. MERCK is an exceptionally smooth, free-flowing, white powder, with excellent adhering properties and fine "slip." It also is free from gritty or harsh particles, and from foreign or rancid odor. It contains not more than 20 parts LEAD per million, and not more than 2 parts ARSENIC per million. It complies with the specifications of *The U. S. Pharmacopoeia.* Added to other ingredients in correct proportions, Zinc Stearate U.S.P. Merck will give your powder effective covering properties, perfect adherence, fineness of texture, and the bulkiness desired.

MERCK & CO., Inc. *Manufacturing Chemists* **RAHWAY, N. J.**

New York, N. Y. • Philadelphia, Pa. • St. Louis, Mo. • Elkton, Va. • Chicago, Ill. • Los Angeles, Cal.

In Canada: MERCK & CO. Limited, Montreal and Toronto

When you want to raise

FUNDS

on COSMETICS
DRUGS and CHEMICALS

Inventory on your own premises can be used as a basis for bank credit. Douglas-Guardian Field Warehousing immediately converts drugs or chemicals in your possession—(raw material or finished merchandise)—into collateral that is good for a bank loan.

You can readily see the advantages of having your inventory right on your own property—yet almost as liquid, for credit purposes, as listed securities.

Our long experience in the field enables us to advise you on how to arrange such a transaction quickly and easily.

Phone or write for the facts, and you will receive them from an *operating man,* whose job is to service business, not merely to get it.

DOUGLAS-GUARDIAN
WAREHOUSE CORPORATION

NEW ORLEANS 1: 118 North Front St. • CHICAGO 3: 100 West Monroe St. • NEW YORK CITY 4: 50 Broad St.
ATLANTA • CLEVELAND • DALLAS • EASTON, MD. • LOS ANGELES • MEMPHIS • SAN FRANCISCO
PORTLAND, ORE. • ROCHESTER, N.Y. • SPRINGFIELD, MASS. • PHILADELPHIA • TAMPA, FLA. • SPRINGFIELD, MO.

INDOLINE

Not a substitute for INDOL but a product superior in

LASTING QUALITY
SWEETNESS and
PERFUME VALUE

Please Write for Free Sample

Norda

ESSENTIAL OIL AND CHEMICAL COMPANY, INC.

NEW YORK OFFICE
601 WEST 26TH STREET

CHICAGO: 325 W. HURON STREET
LOS ANGELES: 2800 E. 11TH STREET
ST. LOUIS: 1123 WASHINGTON AVE.
FRANCE: PLACE VENDOME, 8, PARIS
ST. PAUL: 253 E. 4TH STREET
HAVANA, CUBA: AMARGURA 160
CANADA: 119 ADELAIDE ST., W. TORONTO
135 COMMISSIONERS ST., WEST, MONTREAL
ENGLAND: 17 CREECHURCH LANE, LEADENHALL ST., LONDON, E. C. 3

EMPIRE PRESENTS

UPTON CLOSE!

Now, Nationally Known News Analyst Writes
"EMPIRE CLOSE UPS" ***for Empire Box Corporation***

Empire counts among its clients many leaders in the field.

Again Empire takes the lead . . . • Because the future of business so largely depends upon the events of today and tomorrow, Empire brings to the users of folding cartons one of the nation's outstanding news-interpreters—Mr. Upton Close, in a monthly analysis of the news. • This action is typical of Empire! It reflects the progressive spirit that also brings you the latest developments in modern packages. • If you are a user of folding cartons, "EMPIRE CLOSE UPS" is available to you. Please write your request on your firm's letterhead.

Empire **BOX CORPORATION**

OFFICES: GARFIELD, N. J.—PALMOLIVE BUILDING, CHICAGO, ILL. • *PLANTS:* GARFIELD, N. J.—SOUTH BEND, IND. • *MILLS:* STROUDSBURG, PA.

Heliocrete

offers the great beauty of the Heliotrope fragrance with none of the disadvantages of Heliotropin

Heliocrete is ten times closer to the natural heliotrope fragrance with no chemical by-odor.

It is stable against alkali —excellent as a fixative.

It has four times the strength of Heliotropin and is twice as economical.

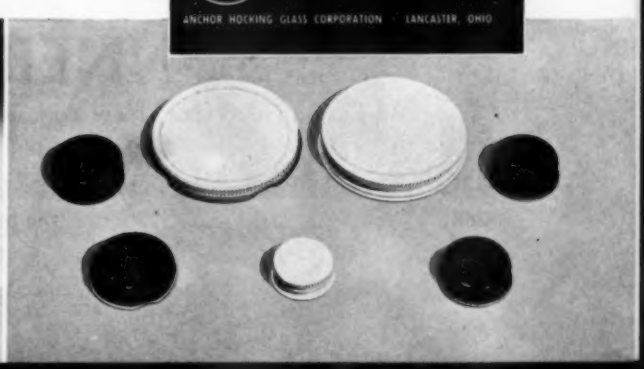
schimmel
601 West 26th Street
New York 1, N. Y.

Anchor Hocking has long led in the engineering development of better glass containers, closures, and packaging methods. Our research facilities are tirelessly at work, our laboratories always ready to help manufacturers with their individual problems. Anchor Hocking glass containers and caps are manufactured under exacting control—in conformity with management's uncompromising standards—by highly skilled, precision workers who have been with the company 10, 20 years or more. Those are some of the reasons why Anchor Hocking containers and closures bring drug and chemical manufacturers "better success"... why they perform so well on the production line... why they are safe and economical... why they withstand the hard knocks of production, handling and transportation.

"Meet Corliss Archer" every Saturday afternoon, entire coast-to-coast network **CBS.**

N. J. JENSEN, one of Anchor Hocking's ablest and most popular men, has been a member of the Anchor Hocking family for 12 years.

ANCHOR HOCKING
GLASS & CAPS
ANCHOR HOCKING GLASS CORPORATION · LANCASTER, OHIO



QUALITY COSMETICS

made better with

SONNEBORN

White Oils and Petrolatums

Leading cosmetic manufacturers have long standardized on SONNEBORN White Oils and Petrolatums . . . convincing evidence of the unsurpassed Quality, Purity and Stability of these highly refined ingredients.

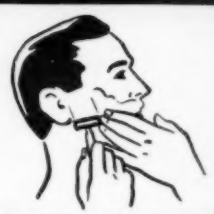
A few of the end-uses of successful products containing SONNEBORN White Oils or Petrolatums are illustrated. There are many others.

The broad research facilities of the SONNEBORN laboratories, backed by 64 years of refining experience, are available for aid in current production problems and in the development of new cosmetics for postwar markets.

HAIR TONICS

OILY NAIL POLISH REMOVER

LIPSTICKS AND ROUGES



BRUSHLESS SHAVE CREAM

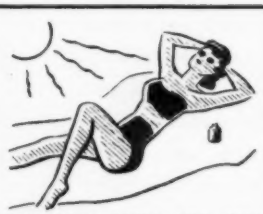
BRILLIANTINES

SOAPS

EYE-MAKEUP

COLD CREAMS AND CLEANSING CREAMS

HAND LOTIONS



SUNTAN CREAMS AND OILS

HAIR POMADES

SPECIAL SKIN CREAMS

WHITE MINERAL OILS

KAYDOL U. S. P. Heavy
ORZOL U. S. P. Heavy
PURITAN U. S. P. Heavy
ERVOL U. S. P. Light
BLANDOL U. S. P. Light
CARNATION
KLEAROL

PETROLATUMS U. S. P.

TYPE I: *Medium Consistency—White Protopet—Yellow Protopet and other colors*

TYPE II: *Soft Consistency — White Fonoline — Yellow Fonoline*

TYPE III: *Medium Consistency With High Melting Point —White Perfecta*

SPECIALTIES

SONO-JELL— Complete series for liquefying cleansing creams, pomades, ointments, etc.

DEO-BASE— Light hydrocarbon distillate refined to complete freedom from kerosene odor.

TRI-OL— Base for soapless oil shampoos and base for soap-sensitive skin cleansers.

WHITE OIL DIVISION

L. SONNEBORN SONS, INC.

88 Lexington Avenue, New York 16, N. Y. • Refineries: Petrolia and Franklin, Pa.

Southwestern Distributors: Sonneborn Bros., Dallas, Texas

Branch Offices: Chicago, Baltimore, Philadelphia and Los Angeles

Stocks Carried in Principal Cities

LOOKING INTO THE FUTURE

ETHYL BROMIDE

A valuable chemical intermediate

• Ethyl Bromide is an economical ethylating agent in the synthesis of Barbituric Acid and its derivatives. The manufacturer of vitamins and other organic chemicals has found that Dow Ethyl Bromide is a dependable intermediate in organic synthesis. It is a clear, colorless, volatile liquid with a pleasant odor and uniform properties.

PROPERTIES

Specific gravity at 25/25° C.	1.424
Pounds per gallon at 25° C.	11.85
Boiling Point	38.4° C.
Freezing Point	—119° C.
Flash Point	None

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN
New York Philadelphia St. Louis Boston Washington
Cleveland Chicago Houston San Francisco Los Angeles Seattle

PHARMACEUTICAL *Chemicals*

DOW
CHEMICALS INDISPENSABLE TO INDUSTRY AND VICTORY

THE SATURDAY EVENING POST
Here's why only
ONE CONTAINER RANKS
FIRST IN WAR
SUPPLIES FROM THE SKIES! Supplies often reach our fighting men in strange and dangerous ways. But the can gets them there safely. No other container could so withstand hazards of crash landings . . . submersion in salt water . . . repeated . . . submersion in salt water . . . repeated cannon fi . . . gas poisons . . . extremes of climate encountered in a global war. No other container is so convenient to store, handle, and use.
WAR NEEDS COME FIRST! The Army and Navy use hundreds of products that have always come in cans. In addition, cans are still made for "the folks back home." Hat to name the terrific double demand, many products—such as beer, tobaccos, dog food, foods and talcum powders—which could be packed for civilians temporarily in substitute containers, are out of cans for the duration.
THE GREATEST TRUST OF ALL! Precious blood plasma . . . bandages . . . morphine, sulfa, countless healing drugs . . . emergency rations to sustain fighters in the most advanced positions—for all these means of caring for our men cans are required. It would be hard to overestimate the vital job which the sturdy, hermetically sealed, completely protective can does in this war!
LIFESAVERS! Signal flares, blankets and fishing tackle for lifeboats are surprising items of can-packed equipment which give torpedoed men, adrift on the ocean, a fighting chance to survive. Cans are the only containers absolutely air-and-light-tight . . . non-porous . . . non-breakable—and war but emphasizes values in the can which normal times have taken for granted.
FIRST IN PEACE
SO CONVENIENT! Ease of handling makes the can stand high with housewives. Oil for her machines . . . cleaning fluids . . . polishes . . . insecticides . . . are just a few of the many household products for which the can has long been the ideal container. Women who are putting up with substitute containers cheerfully now, look forward to the return of cans—after Victory.
FLAVOR PROTECTION! Why do pipe smokers prefer tobacco in a can? Because they know the flavor's there! In cans, air and moisture—the elements which destroy flavor—are locked out . . . the flavor is kept in. It is this dependable protection they give which makes cans so popular for preserving freshness and aroma in coffee, too—and in spices and other flavor ingredients.
AN EVER-READY FEAST! Cans make a variety of foods available the year round, at low cost, wherever you live. Fish, meats, milk, fruits and vegetables in cans are carefully selected...preserved at their peak of goodness. And modern canning methods accomplish a nutritional miracle. Actually, canned foods retain more vitamins, more minerals, than many home-cooked "fresh" foods!
SHATTER-PROOF, air-and light-tight, light weight, easy to open, to refrigerate, to dispose of—and cheap enough to throw away—the good "tin can" has arrived! But "tin" is a misnomer, for cans are more than 98% steel, less than 2% tin. Since both are vital war metals, please use wisely the items you get in cans . . . don't waste . . . turn empty cans in for salvage.
CAN MANUFACTURERS' INSTITUTE, INC., NEW YORK
NO OTHER CONTAINER PROTECTS LIKE THE CAN
AFTER VICTORY—THEY'LL ALL BE BACK!

This is the second of a series of advertisements appearing currently in full color in national magazines reaching millions of consumers. These dramatic ads show how both war and peacetime use has proved the all 'round superiority of the tin can.

Continental Can Company, one of the sponsors of this campaign, is pleased to call your attention to this advertisement and invites you to write for further information to—Can Manufacturers Institute, Inc., 60 East 42nd Street, New York 17, N. Y.

CONTINENTAL CAN COMPANY
NEW AND BETTER THINGS IN CONTINENTAL CANS

STANDARD SYNTHETICS
INCORPORATED

LEMON
ORANGE
LIME
CITRONELLA
LEMONGRASS
LAVENDER
GERANIUM
BERGAMOT
CASSIA
CEDARLEAF
ROSEWOOD

AROMATICS
PERFUME BASES

Direct Importers of Spanish Oils —
Rosemary, Spike Lavender, Sage, Thyme

●

ESSENTIAL OILS

Special Compounds for All Kinds of Soaps, Disinfectants, Sprays and Insecticides

SAMPLES SUBMITTED GLADLY. SEND US YOUR PROBLEMS.

STANDARD SYNTHETICS, INC.

30 WEST 26th STREET — NEW YORK 10, N. Y.

BRANCHES IN: CHICAGO SAN FRANCISCO KANSAS CITY, MO.

KEEPING POSTED

Foreign Property Seized

THE Alien Property Custodian, in a recent report to Congress, states that this country has taken over more than $375,000,000 worth of alien-controlled property and has made 30,000 patents available to American industry.

One Million Fewer Injuries

THE Secretary of Labor has set a goal of one million fewer industrial injuries in 1944, to bring about a 40 per cent reduction from the 1943 total of nearly 2,500,000 accidents.

Unlimited Fats and Oils for Vitamins

MANUFACTURERS of vitamin A and D oils can now obtain all the rationed fats and oils they need to make these essential pharmaceutical preparations, according to OPA. These manufacturers have been receiving 120 per cent of the rationed fats and oils they used during 1942.

Penicillin Production

PENICILLIN production in 1943 totaled 21,092,000,000 Oxford units, or enough to treat 21,092 patients, according to the WPB Chemicals Division, which also reports that 40 per cent of this amount was produced in December alone. The rapidity with which penicillin production is being multiplied is indicated by the fact that if only the rate of production in December alone was maintained, production for a twelve-month period would be 101,241,600,000 Oxford units, or enough to treat 101,241 patients. However, numerous plants large enough to produce this projected total in any one of them are coming into production this year. Therefore, it would seem that production for 1944 will make the 1943 production look like a very small beginning.

Ration Tokens Do Not Irritate!

THE new ration tokens are made of vulcanized rubber, the same material that is used for tax tokens in many states, for tabbing hotel keys, and, of all things, for dog licenses. To be sure that no one is going to be harmed by handling these new wartime nuisances, the U. S. Public Health Service very seriously undertook to make patch tests and thus find out if people were sensitive to them. After tests which extended over a period of more than five months, the U. S. P. H. S. says: "the tokens failed to irritate or sensitize the skin of any of those on whom they were tried." To which the J. A. M. A. adds: "perhaps people are less sensitive to war measures than they were at the beginning. All of which means that the only unfavorable reactions will come from a psychologic point of view.

Sulfa Drug Production

SULFA drugs produced in 1943 reached the amazing total of 9,860,330 pounds, compared with 5,434,427 pounds produced in 1942. Nicotinic acid amide more than doubled in volume, rising to 160,087 pounds in 1943, from 70,257 pounds in 1942, and 21,111 pounds in 1941. Riboflavin production was multiplied almost five times to a total of 75,640 pounds in 1943, from 16,381 pounds in 1942, and 2,777 pounds in 1941. Aspirin production varied slightly, totaling 8,577,173 pounds in 1943, against 8,650,113 pounds in 1942, and 8,084,003 pounds in 1941. Technical and U. S. P. acetanilide production almost doubled, rising to 13,822,780 pounds in 1943, from 7,651,883 pounds in 1942, and 2,937,318 in 1941. Phenobarbital and its sodium salt was off to 318,127 pounds in 1943, from 340,388 pounds in 1942, and 281,108 in 1941. Edible lactic acid production increased to 4,456,284 pounds in 1943, from 3,124,439 pounds in 1942, and 2,334,058 in 1941.

Alcohol from Potatoes

ALCOHOL is also to be made from potatoes in this country. The Government is completing arrangements to convert upward of 18,000,000 bushels of lower grade white potatoes into industrial and thus prevent their possible waste and a drop in growers' prices. The potatoes will be dehydrated at idle Midwestern sugar beet plants and then shipped to alcohol plants for conversion into alcohol.

Surplus Medical Supplies

THE problem of disposition of surplus medical supplies in the hands of the Government is not going to be allowed to wait until the end of the war for solution. Right now the Procurement Division of the Treasury Department has $100,000,000 worth of medical supplies for disposition, and some 18 to 25 per cent, or about $25,000,000 worth of these goods are drugs and biologicals. Surpluses of insect repellents and rubbing alcohol has arisen previously, but this is the largest surplus of medical supplies that has faced officials during

World War II. It is thought that an industry advisory committee will be called in so that the goods can be marketed without ruinous dumping that might seriously affect business and throw men out of work. Further, it is intended that the goods will be kept out of the hands of inexperienced dealers who might improperly label or improperly store the goods with ultimate harm to the consumers of them.

Peroxides Under Allocation

HYDROGEN peroxide, sodium peroxide, and sodium perborate,—three antiseptics the action of which is based upon liberation of nascent oxygen—have been placed under allocation by WPB. WPB says that substantial curtailment of consumption of these products is necessary, and explains that while certain uses of the products must be supplied in full, a substantial percentage is used for textile finishing and other less essential processes. It is in this direction that curtailment will be made, with no substantial reduction for use as antiseptics.

Vitamin A Under Allocation

VITAMIN A has been placed under allocation by WPB. It is stated that the change would have no great effect upon the public in the near future, the action being taken to insure equitable distribution in the face of mounting demand. This increased demand will exceed new supplies and will draw on reserves. Cod liver oil and tuna liver oil are not effected by the order which is No. M-373.

Plans have been formulated for the erection in Jamaica, B. W. I., of six pilot plants to manufacture alcohol from rejected and surplus bananas. It is expected that these plants will absorb about 3,000,000 stems of bananas annually or whatever surplus remains after the export and domestic demand has been satisfied.

Plastics Not to Increase

OUT of a production of 550,000 pounds of plastics annually produced in this country, not including the alkyds or other resins used for protective coatings, approximately 110,000 pounds, or 20 per cent are going into civilian products, while the remaining 440,000, or 80 per cent are being used for direct and indirect war needs, according to Clinton Rector, chief of the WPB Plastics Section. A terrific job still confronts the plastic industry in maintaining production of plastic components required in construction of our military machines, and the job of producing war machinery is far from complete, according to Mr. Rector. Further expansion of civilian plastics is unlikely, and the availability of most plastics for the rest of the war is limited by the supply of some basic chemical, or by manpower, rather than by limited capacity. Exceptions to this are polyvinyl chloride and vinyl copolymers, Saran or polyvinylidine chloride, ethyl cellulose, polyvinyl alcohol, and cellulose acetate butyrate.

Doctor Shortage Ahead

THIS country faces a serious shortage of doctors and dentists in the next three years as a result of the War Department's curtailment of the Army Specialized Training Program, says Dr. Willard C. Rappleye, Dean of the Faculty of Medicine, Columbia University. According to the present plans of the Army, all first-year men in dental and medical schools are all pre-medical or predental students will also be returned to active service. Dr. Rappleye states that by the Fall of 1946, unless the Army's program were changed now, the medical schools will be operated at less than 50 per cent of capacity. At present the Army has contracted with these schools for 55 per cent of the medical students, the Navy for 25 per cent, while 20 per cent is allowed for civilian students.

"I put in a drop of estrogen and they simply went crazy."

Cuban Alcohol and Molasses

THE United States Government and Cuba have finally reached an agreement on the purchase of the molasses from Cuba for the production of alcohol in this country. The alcohol is to be used to produce synthetic rubber. The agreement provides that this country purchase an initial minimum of 65,000,000 gallons of blackstrap molasses on a 13.6 cents per gallon base. Other terms and conditions are of this purchase are similar to the invert molasses contract of 1944. This country will purchase from Cuba up to 12,500,000 gallons of 190 proof alcohol at 65 cents per gallon, f.o.b. Havana. However, if any of this alcohol is not produced by Cuban distilleries, Cuba agrees to sell the molasses necessary to produce that amount. It is estimated that Cuba will need 85,000,000 gallons of blackstrap molasses for Cuban domestic motor fuel and for other Cuban industrial uses. Cuba agrees to limit the export of beverage alcohol to this country to the amount imported during 1943 (14,300,000 gallons proof gallons). All blackstrap molasses not included in requirements or used to produce industrial alcohol for this country will be sold to this country. Cuba may deliver all or part of the excess blackstrap molasses which may become available or up to 8,000,000 gallons of 190 proof industrial alcohol in addition to and under the same terms.

A Million Pounds of Tin

MORE than 1,000,000 pounds of tin were recovered from used collapsible tubes during the past twenty-eight months, according to E. Vogelsang, chief of WPB Tin and Lead Branch. The reason for the cessation of the requirement that a used tube must be turned in when a new tube of tooth paste or shaving cream is bought, is that the tubes which are now in use do not contain enough tin to warrant continuation of the effort. However, all old tubes should be returned to the druggists for the reason that there are still many pure tin tubes in the hands of consumers. It is estimated that still another million pounds of tin could be recovered if all the tin tubes in the country were turned in.

Throwing the Bull

READING of something called "Bullboards," instead of billboards, we instantly recalled the days when the Bull Durham bull used to stare at us ferociously and was one of our favorite billboard figures. However, we read further and found that "Bullboards" were something else again and consists of painting the name of a product to be advertised on the sides of a bull before he goes into the arena to be tortured and finally killed by the picadors, madators, and what have you.

Sydney Ross Company, the export subsidiary of Sterling Drugs, is engaging in this form of advertising in Columbia for its aspirin sold in Latin America under the name of "Mejoral." The highspot of the campaign was reached recently in Socorro, Santander del Sur, when a Sydney Ross salesman, an ex-bull fighter, not only painted the most ferocious bull in this manner, but also went out into the arena and killed it.

Smaller Narcotic Bottles

THE Narcotic Bureau has asked manufacturers of exempt narcotic preparations to limit the size of their consumer packages to quantities not exceeding two ounces. This is for the reason that sale of bottles of more than two ounces has been found to be excessive in the great majority of cases and is wasteful of the critical and strategic narcotics used in their manufacture.

As far as the retail druggists who dispense these preparations from larger containers, the two ounce limitation is easy. But the manufacturers of these preparations are faced with difficulties in complying with this request. In the first place they have large stocks of containers on hand of the sizes that they have been selling, and furthermore the suppliers of glass bottles cannot turn out greatly increased quantities of two ounce bottles over night. So far as the glass bottle manufacturers are concerned, the crowding of their bottle making machines with two ounce bottles, materially cuts down the manufacture of larger sizes for there are only so many machines to make all these sizes. However, the Narcotic Bureau has only "requested" this action and has not ordered it, which means that it is up to the manufacturers to do the best that they can without trying to accomplish the impossible.

Mercury Production Up

A STEADY increase in production of mercury in this country reached a total of 53,300 flasks in 1943, against 50,846 flasks in 1942. However, consumption in 1943 exceeded production at 54,500 flasks, while consumption in 1942 was less than production at 49,700 flasks. Stocks on hand increased to 13,200 flasks at the end of 1943, against 3,457 flasks at the end of 1942. Consumption in pharmaceuticals totaled 15,854 flasks in 1943, against 17,148 flasks in 1942. Dental preparations consumed 556 flasks in 1943, against 1,198 flasks in 1942.

OPA and Perfumes

THE arbitrary action of the OPA in putting a ceiling price on a new perfume, at the same price as an established perfume in the line, without regard to differences in formulation, has no justification in economics or in the purpose for which the OPA was established.

If increasing perfume prices are inflationary, then the new Government excise tax is a deliberate Government effort to foster inflation. The fact is that perfume is not included in any of the indices used to determine the cost of living. It has no effect upon inflation. Opinions of several leading economists, on the contrary, favor the opinion that perfumes and cosmetics are serving a very valuable function in absorbing a great deal of purchasing power that could otherwise be a dangerous contributory factor to inflation.

It would seem that the OPA had plenty to do on the staggering battlefield of cost of living commodities without making arbitrary and formula decisions that hamper business without contributing any net gain in the field for which this agency was created.

Our "Frivolous" Cosmetics

S. B. TALLANTYRE, B.Sc., F.I.C., in a lecture given to the Birmingham and Midlands Section, Institute of Chemistry of Great Britain and Ireland and reported in the Journal of that Institute, made the following smart observation:

"Apart from what might at present be called 'frivolous' manufactures, such as cosmetics and perfumery, essential oils are used . . . ."

If we weren't in a war, and if Britain weren't our ally . . . . !

Doctors' Prescriptions Increase

DESPITE the shortage of doctors in civilian practice, the volume of drug prescriptions which normally totals about 200,000,000 a year, was more than 230,000,000 in 1943, says Dr. E. L. Newcomb, Executive Vice-president of the N. W. D. A., who interprets the rise as an indication that the American people are using some of their increased earnings to purchase more adequate medical care. Personally we think that the epidemics of influenza, grippe, measles, and other diseases had a large influence on the larger total, although it is true that if the people did not have the money they would not have been able to call in the doctor in all cases.

"I'm sure I'll get further in this prostate research by working in a horizontal position."

Balsam Production Increased

BALSAM production has been substantially increased in El Salvador. Approximately 50,000 trees are capable of an annual yield of from 300,000 to 500,000 pounds of crude balsam. Nicaragua also is increasing balsam production, says the Office of the Coordinator of Inter-American Affairs. Also other medicinal plants in abundance in Central America will be investigated to determine a justification for use.

N.F. Lactose Replacement

BECAUSE of the shortage of lactose resulting from the heavy demand of this material for the production of penicillin, the N.F. Revision Committee has authorized its replacement in N.F. preparations with a mixture of not less than 96.5 per cent of sucrose and not more than 3.25 per cent of starch. The preparations to which this replacement applies are: Rennin, Powder of Ipecac and Opium, Saccharated Ferrous Carbonate, and Saccharated Pepsin.

Glass Container Output Higher

GLASS container production for 1944 is estimated at 98,000,000 gross and requirements are estimated at about 95,500,000 gross, according to WPB Glass Container Advisory Committee. The requirements are based on the quotas established by Order L-103-b. Soda ash requirements for 1944 manufacture of glass containers, estimated at 1,100,000 tons, or 10 per cent more than 1943, are expected to be met although cautious use is necessary to avoid shortages.

Cosmetics in Mental Disease

A SOLDIER working as a pharmacist in an Army writes as follows: "Cosmetics are being used in medicine and surgery. In one ward, where women with mental ills are treated, I noticed that the psychiatrist prescribed a hand lotion for one of them. I was surprised when I got the Rx, and phoned my major to verify it. For purposes of mental rehabilitation and morale, the doctor has found such a lotion helpful. In fact, I really believe that in the future, the pharmacist will be called upon to fill an increasing number of cosmetic prescriptions. For quite some time, I have been coming across many of them, written above the signatures of good dermatologists."—*The Givaudanian.*

We thoroughly agree that cosmetics are essential in mental cases of women, since there is nothing that will add to woman's sense of well-being than to believe that she is beautiful and attractive. However, we do not think that prescriptions for cosmetics compounded or packaged by pharmacists is the answer. This is because we are certain that the name and the packaging of the cosmetics offered by our leading manufacturers is most important in cases of this kind. The prescribing of cosmetics cannot be hidden behind the Latin of the physician. He must prescribe products of cosmetic manufacturers in their original packages and without any labels torn off.

Medical Care Survey

THE National Physicians Committee for the extension of medical care held a second meeting in New York on March 8. The committee revealed that a survey of public opinion with regard to medical care had been made for the committee by Opinion Research Corporation. According to the survey, the public has little information and less knowledge of the movements for better medical care. Seventy-nine per cent who said that they had a regular doctor, were satisfied with everything except the difficulty of paying for medical and hospital services. Only one-third approved a plan of six per cent pay roll deduction by the Government, although the need for adequate medical care is recognized.

Pharmacists as Bacteriologists

ELMER BOBST, president of Hoffmann-LaRoche, speaking at the meeting of the National Physicians Committee, offered the idea of having the pharmacists take courses in bacteriology and other subjects so that they could do the blood counts, blood chemistry, urine analyses, and other similar things for the doctors. Mr. Bobst believes that the course in pharmacy should be changed to include these subjects so that the pharmacist would once again become a professional man. Mr. Bobst feels that this would not only aid the pharmacist, but would also be of great aid to the doctor since the patient would be more apt to stop in a drug store and have these things done than he would search out some laboratory which would not be nearly so convenient.

Another Name for It

IVOR GRIFFITHS, president of the American Pharmaceutical Association, speaking at the National Physicians Committee conference, added still another phrase to describe social security which has previously been described as "birth to grave," "womb to tomb," and in other ways. Dr. Griffiths describes it as "episode to epitaph."

Penicillin Price Cut Sharply

THE price of penicillin has been reduced to $3.25 per 100,000 units from a previous price of $5.00, which in turn was reduced from a former price of $8.50 which prevailed at the turn of the year. As the big new 40 billion unit plants of Chas. Pfizer & Co., and Commercial Solvents Corporation are now coming into production, it is anticipated that once they hit their stride that prices will go still lower.

Less Sugar Ahead

LESS sugar for civilians in 1944 is forecast by the War Food Administration due to the needs of molasses for alcohol, to increase needs for the Army, Navy, and Lend-Lease, and to war shipping conditions. Civilian sugar is to be cut from 5,400,000 tons in 1943, to 5,074,906 tons in 1944,—a reduction of about six per cent. Alcohol demand for synthetic rubber and other needs is almost 50 per cent above 1943, and 180 per cent above 1942. This necessitates 800,000 tons of sugar for manufacture of invert molasses, and an additional reserve of 200,000 tons of raw sugar.

In 1943, grains furnished the bulk of the alcohol raw material, but the increased demand for alcohol and need for saving grain for food and feed requires large quantities of invert or high test molasses for alcohol. Sugar allocations are firm for the first half of this year, but cuts are likely for the last two quarters.

U.S.P. Penicillin Monograph

THE U. S. P. Revision Committee has drafted a tentative monograph for penicillin sodium. The drafting of this monograph is the result of conferences in which were included members of the U. S. P. Revision Committee, the Food and Drug Administration, the Army Surgeon General's Office, the Navy Surgeon General's office, the National Institute of Health (U. S. Public Health Service), National Research Council, Office of Scientific Research and Development, Northern Regional Research Laboratory of the Department of Agriculture, the War Production Board, the British Central Scientific Office, the Laboratory of Hygiene, and the League of Nations Medical Director of the Health Division.

Glycerin from Molasses

GLYCERIN manufacture by the fermentation of molasses has been abandoned by National Chemical Products, Ltd., of South Africa. The glycerin was of high quality, but the process was uneconomic due to a lower yield than was anticipated, and also due to the difficult technical problem of filtration.

Mexican Lime Oil Subsidy

A SUBSIDY equivalent to the amount of the export duty has been granted on lime oil exported from Mexico by the National Union of Producers of Lime Oil under provisions of an executive resolution promulgated January 14.

Post-War Plant Disposal

POST-WAR disposal of Government-owned plants is something that many are now giving their attention to. Director Jesse Jones of the Reconstruction Finance Corporation, asked last month that Congress formulate a policy for this problem which will have to be faced sooner or later. However, it is thought in Government circles that these plants will have to be written off in the same manner as the Army camps will have to be written off. This is for the reason that the inflated costs of these plants will make it impossible for anyone to buy them with the expectation of using them to compete with manufacturers whose plants were built at normal costs, and which plants are now largely or totally amortized. Some plants will be retained by the Government as stand-by factories for emergency manufacture of war materials in the event of future world disturbances, but this will not apply to the plants in which this industry is interested.

"I don't think so much of synthetic rubber."

The Advance in Proprietaries

HOW far this industry has advanced is indicated by the following excerpt from the report in the Journal of the American Medical Association on the work of the Council on Pharmacy and Chemistry:

"The proprietary medicine business is essentially a development of the last seventy years. Nostrums placed on the market in the seventies and patented German synthetics became enormous in number in the early part of this century. Profits were immense and enticing. While a few of the compounds were of distinct value, the vast majority were simple mixtures of well-known drugs put out under fanciful copyrighted names and for the most part fradulent in one way or another; many were actually dangerous. Some were products from well-known drug houses; the majority were put out by men who knew nothing of drugs or their effects but who went into the business of manufacturing medicines as they would any other business. Few hired competent chemical or medical advice, and as a result no statement was to silly or claim too extravagant. Those with a critical eye should have seen through the flimsy material offered as 'evidence', but by persistent and occasionally clever advertising many were duped into buying and using these mixtures. Truly in these earlier days medicine is some instances could have been defined by the disappointed patient and physician as 'the act or science of amusing a sick man with frivolous speculations about his disorders, and of tempering ingeniously until nature either kills or cures him.' "

DRUG PRICE CUTTING

Drug manufacturers are cutting prices on vitamin preparations and other products. Is this the result of Government pressure, post-war trade position, or is Government demand slowing up? Is there a Government surplus of drug products or not?

CONDITIONS are unsettled in the drug manufacturing industry. In the face of a heavy wartime demand, prices on civilian products have been slashed in several instances to levels which appear to be below cost. An outstanding example is that of sulfa drug tablets which some manufacturers have reduced to prices which are said to result in losses to the manufacturers quoting them. Pressure is being exerted upon the manufacturers of the sulfa drugs to bring down the prices on the chemicals so that the makers of the tablets can show a profit at present levels for the tablets. The manufacturers of the chemicals are not likely to do this for some time since the lower prices on tablets are not of their making. Probably at a later date these manufacturers might be in a position to make adjustments, but they are not going to make them until the tablet market is stabilized, for if they lowered their prices now, the tablet makers might use this reduction to quote still lower prices on the tablets. No one can understand why these tablets have been cut in price since any reduction below cost certainly will not increase production to a point at which the lower price would be justified.

Price cutting has also been rampant in vitamin preparations, with reductions of twenty-five to fifty per cent the rule, and reductions of seventy-five per cent occurring in some instances. Some reduction in prices of vitamin preparations were anticipated as the result of the recent threat of the OPA to issue a price order cutting vitamin preparation prices because of the fact that the synthetic vitamins used in these preparations have been cut many times without any appreciable reductions in the prices of the finished products. While the OPA was clearly out of its field in attempting to issue any such order, manufacturers did not want the order issued for several reasons. Finally a compromise was arrived at by which the OPA held up issuance of its order for three months, and the recent reductions by manufacturers have now made the issuance of any such order unnecessary.

But many manufacturers of vitamin preparations appear to have cut their prices too deeply, and some people have said that they have figured some of these prices from the angle of raw material prices, and they do not see how any profit can result. Probably there is the hope in this instance that the lower prices will result in a broader market, and that the resulting increased volume might result in a profit being realized.

Certainly a wider market should result from International Vitamin Corporation's reduction from $3.25 to $1.39 for 100 B_2 tablets, or from the same company's reduction from $2.49 to $1.43 for 100 vitamin B_1 tablets. Also consumption should be stimulated by the price reductions of other manufacturers, very few of which have kept their prices steady in this period. Many talk as though vitamins had reached their peak of consumption and that from this time on consumption should decline. Perhaps the price reductions are an attempt to force consumption of vitamins to a still higher level.

Tied up with this tendency to cut prices in competitive fights is the report that there is a surplus of one hundred million dollars worth of medical supplies which must be disposed of by the Treasury Department as the result of over buying for the Army, Navy, and Lend-Lease. Twenty-five per cent, or twenty-five million dollars worth of these supplies are said to be drugs and biologicals. If this large amount of material were to be thrown on the market, manufacturers would be hard hit to keep their sales up for civilian sales. That this surplus existed was confirmed by practically every Government bureau in Washington which should have any interest in such a surplus being disposed of. No one in Washington had a list of the goods, nor did anyone have any knowledge how the goods were to be disposed of. The statement was made that civilians should be given greater supplies of many things that they had been short of, so as to make reconversion easier. The officials were then told that civilians had never been short of drug products and that no reconversion was necessary since drug manufacturers had never converted to war work, but had only expanded. Now the Army says that there is no surplus of medical supplies and that all on hand will be used.

However, the question remains unanswered whether or not Government buying of drug products is going to be curtailed sharply as the result of this threatened surplus, and whether or not the price cutting now in progress is not the result of the uncertain condition of Government buying of drug products.

POST-WAR SCRAMBLE

By JOSEPHINE von MIKLOS

WHEN we ask: how will post-war designing for the cosmetic industry differ from pre-war designing, we are, just like all of those who are now busily engaged in the making of the blueprints for that "brave new world," putting questions which, in one way or another, put us very far out on the proverbial limb. It isn't so much, perhaps, that we haven't a good many reasons for assuming a wide range of change and improvement. It is, rather, that we don't really seem to know what we are headed for . . . . and what kind of a world this new world is to be.

As one of the major industries, the cosmetic industry, too, will somehow fit into the general pattern of things to come. It is, perhaps, not too far fetched to say that the cosmetic industry too will take its cues from economic and political trends, as fashion will, and styling, that basic human elements will give it direction and scope, and that no matter what happens and where, somehow cosmetics will reflect it. However, this is no direct answer to the many problems of today or of that tomorrow, when restrictions are gone from the miraculous new materials which war has developed, when trade is free again and when millions and millions of merchandise-starved people will clamor for new and better things.

Obviously, economic conditions in general, industrial developments of the most sweeping nature, and the psychological set-up of the world after the war will play their part. But even the best economists won't say flatly whether the release of now restricted materials will automatically lower prices or whether the re-opening of old and the undoubted addition of new markets will raise cost levels. The economic philosophy of scarcity on one hand, and the economic philosophy of abundance on the other, will somehow play for balance—a balance more exquisite than was ever known, since so many of the goods of this world have been available to so few and so much of the void created by war will have to be filled in so many places.

New materials developed during the war and new engineering skills will be available for every-day purposes. The brains which designed things like automatic pilots and rocket bombs will turn to dreaming of working parts for much less spectacular and much more pleasant things.

What will our packages be like after the war when all restrictions are off and all manner of new materials are available and old ones are in greater supply at sharply lower prices? Now is the time to look ahead even though we cannot properly evaluate all the factors that will influence our post-war packaging.

Finally, and this is perhaps a factor of much greater real importance than anything else, people all over the world will crave a chance to relax. We will live in a mood of acceptance of new ideas, an exchange of thought as well as of materials; and style will again draw inspiration from the far corners of the earth.

Which brings us back to our initial question: how will post-war designing for the cosmetic industry differ from pre-war designing?

Well, essentially, we could, perhaps, say, it won't differ so very much. Those enlisted in the service of beauty will strive harder than ever before to make beauty the common property of everyone. The real difference will probably lie in the availability of new and more materials of every kind and a much greater variety of ramifications of those materials. There will be, for one, the new kinds of plastics about which we hear so much today and which seem to hold so many new promises. Plastics are light in weight which constitutes tremendous advantages. They are practically unbreakable in ordinary use and they mean an unlimited use of color. Higher tool costs will be absorbed in greater production.

Light metals will be available and machineable as they have never been before. There is talk that some light metals will be so practical and so inexpensive that they will be usable in place of cardboard. We could cite many other instances of similar nature—with a large question mark after all of them.

Plastics and light metals will probably provide the greatest scope for package designer. What we must guard against is a tendency to make one thing look like another. We must learn to understand each material

and its applications as well as its limitations, and there are limitations to every material. We must get away from ersatz-philosophy, from the state of mind of make-believe and substitution. For those very reasons, there is tremendous scope in developing new designs for new materials, rather than applying old ideas to new materials. Also, in combining materials which have not been combined before.

What it comes down to, it seems to me, is a very much greater task for the designer. Just thinking up pretty tricks won't be enough after this. We will have to be conscious of these new developments and learn to weigh one material against the other, studying carefully the types of markets to which the products will go, developments such as are bound to happen in communication systems—a tremendous increase in air plane travel, for instance—and last but certainly not least, changes in taste of the general public which have occurred during the war and which will be continuing after it. To put this last thought into a nut shell: women who have now been able to go to the finest stores and buy high priced merchandise have become more style conscious than ever before. When their earning power is again reduced to more normal scales they will have to go back to less expensive outlets; but it seems extremely doubtful that they will want to abandon the style which they now know. They will demand, and have a right to demand, taste at any price. And in a way, here lies the real scope for the designer of the future. While it has been fun to design wonderful and elegant things for the over-privileged few, it will be tenfold as much pleasure to design wonderful and elegant things for the underprivileged many.

After the last war there was the beginning of modern style—a combination of utility and decor. I believe we stand at the threshhold of another such fusion. It will then happen, I think, as it happened before, that a new and more universal style will gradually evolve; some common denominator which will express an era as a whole. The definitions of these new trends are not yet actually visible; but somehow, it seems to me, there is the beginning of a new style inherent in this ever widening mechanical perfection applied to ever new materials and in the hopes and dreams of countless numbers of people for a better world and a world filled with beauty.

In the meantime, the scramble for post-war ideas goes on. We are told that metals are soon to come back; that it won't be too long now that we'll have brass or aluminum lipsticks again. This, obviously will mean that the paper and plastic and wood lipstick cases now on the market will disappear. But WHEN will we get the good old shiny brass lipsticks again?

Pretty soon now, we can order moulds for new bottles again. But what does pretty soon mean?

The cardboard situation is getting tighter every day. We may actually have to do without fancy boxes later this year. But as soon as enough shells are packed in cases and enough fibre used for the building of camps, paper and board will be coming around again. Only, the question is; when will there have been enough shell cases?

Most of the great cosmetic houses are re-designing their lines for post-war now. They rightly feel that women will want different things after the war and that the famous Ersatz psychology now afloat, will give way to demands for the real things. But in the process of redesigning they are discovering the same thing that automobile manufacturers have discovered at the same time. We won't have all those miraculous new things the moment the armistice is signed. That it will take quite a while to re-tool and set-up again for other things than bombers and guns and fighting ships. But what we can do is to think ahead farther than the immediate post-war future and say to ourselves: let's do these things the way we know and in the materials that now are proven. When the day comes in which Nylon can actually and commercially be moulded to a thickness of five thousandths of an inch, then we can talk again.

Which, in many ways makes a great deal of sense. Placing orders now for post-war deliveries helps the suppliers with their immediate post-war problems. It creates the jobs which will be so badly needed when everyone is coming home. It is, perhaps, in a way, as great a direct contribution to the winning of the war, as many of the other things which we might be doing right now. If we can help plan now for re-conversion and jobs, we are helping to tell the people who are fighting that there is something very tangible that they are fighting for.

If we who are engaged in the various phases of the cosmetic industry think not only in terms of another cream to create eternal youth; another lipstick shade to match spring hats; another odor to be wafted over the sidewalks of our towns, but also of the tools which will mould glass and plastics; if we create new swivels for lipstick cases and new turns of the old alchemist miracles in the retorts of our chemical industry, we will draw circles ever wider in the picture of a prosperous world.

And if designing, as such, figures largely in all of this, it isn't just a part of the wishful thinking in which a designer is inevitably engaged; it is, to a much larger part, we hope, our own desire to do more than create beautiful whisps of fancy for an ephemeral moment of promotion. We are, in that, perhaps, incurable idealists. But if we fuse into our search for style and beauty the knowledge of materials and mechanical perfection which makes style and beauty the common possession of new millions, designing becomes a basic contribution to this promised new world. The scramble unfolds into an orderly process of thought. To do just that is in the widest sense the scope of present-day post-war designing.

COSMETIC CREAMS

Creams are one of the most important items in a cosmetic line. There are three uses for creams, three types of creams, and three basic formulas for creams. This article gives the basic facts surrounding cosmetic creams in concise form.

WHICHEVER way we look at the subject of cosmetic creams it appears as a trinity. If we approach it from the viewpoint of uses it can be classified in three groups:

Preparation
Care
Protection

or, applying a different and more popular terminology:

Cleansing
Lubricating (Emollient)
Make-up Base

Likewise, from the angle of formulation the vast majority of cosmetic creams will be found to belong to one of three species:

Cold Cream or Beeswax-Borax Type
Vanishing Cream or Stearic Acid-Alkali Type
Water-in-Oil Emulsion or Absorption Base Type

Of course, there are border cases and mixtures of the types and no useful purpose would be served by trying to force every product rigidly into one definite group. And there is one exception which does not fit into any of these formulation types, but enjoys sufficient, though limited popularity to be worth dealing with, namely the Liquefying Cleansing Cream. Because of its extreme simplicity in every respect it shall be the first to be discussed.

Liquefying cleansing cream has just one job to do, to remove make-up and dirt. The ingredient which performs this job is mineral oil. The other ingredients serve only to bind the mineral oil in such a manner that the product is creamy for application and liquid for removal. The general type formula looks like this:

Formula A

Mineral Oil	630
Petrolatum	220
Wax	150
	1000

Here mineral oil means a medium viscosity grade. Petrolatum a good white grade and wax can be represented by several different materials. The most likely wax to be used is paraffin wax of a fairly high melting point, maybe 165° F. Then any of the following may be used either in connection with paraffin or in other blends: beeswax, ceresin, spermaceti.

According to the grades of the waxes used, the proportions of the formula will have to be varied a little and the relation between the mineral oil and petrolatum can be changed as desired, just as long as the resulting cream will be homogeneous in the jar and liquefy readily on the skin. Here is a variation of the general type formula:

Formula B

Mineral Oil	625
Petrolatum	200
Ceresin	150
Beeswax	25
	1000

This type cream may remain unperfumed. Some women seem to like it that way. However, we would think that a pleasant odor has more appeal than no odor and recommend perfume. But not too much and not too heavy. Cleansing cream is applied lavishly so that excessive odor is bothersome. About 0.2% to 0.3% of a light floral or lemony odor seems right. It is not customary to color liquefying cleansing cream, but if you find its appearance a little drab, a light tint can remedy that. One per cent solutions of oil-soluble cosmetic colors are most conveniently used and the addition of from 0.1 to 0.3% of such a solution to the cream should produce a nice shade.

The manufacturing procedure consists of melting all ingredients together and stirring, adding the perfume when the mixture has cooled to within about ten degrees above the solidifying temperature. A jacketed kettle is preferable for melting, but heating over an open flame is not objectionable if the mixture is stirred continuously and excessive general overheating is avoided. The cream is filled liquid into jars. It shrinks upon solidifying, causing the surface to "fall in." Therefore, if a nice level surface is desired the jars need "topping" after the first filling has solidified.

Although an easy and simple item regarding manufacture, the volume possibilities of liquefying cleansing cream are restricted by limited consumers' acceptance,

which is caused by the fact that this kind of cream has a marked drying effect upon the skin. This confines its use to women with oily complexion.

Therefore, the big item for cleansing purposes is cold cream. The classical general type formula is the one found in the USP as Unguentum Aquae Rosae, which may well be considered the ancestor of the majority of all face creams sold today. For your convenience we repeat it here:

Spermaceti	125
White Wax	120
Almond Oil	560
Sodium Borate	5
Rose Water	50
Distilled Water	140
	1000
Oil of Rose	.2

Now, this is not the ideal cosmetic product by modern standards. To make a more up-to-date cream we have to introduce several changes. But no matter what variation is adopted, as skeleton of any formula remain beeswax and oil, borax and water. Mineral oil will usually take the place of almond oil. The percentage of total waxes will be less and the water content somewhat more. And most everybody uses more borax in relation to beeswax than the USP formula, which given an exceptionally low ratio. Here are some examples:

C

Beeswax	60
Ceresine	120
Ozokerite	10
Mineral Oil	530
Borax	6
Water	274
	1000

D

Beeswax	120
Paraffin	10
Lanolin Absorption Base	10
Mineral Oil	590
Borax	10
Water	260
	1000

E

Beeswax	130
Spermaceti	20
Amorphous Mineral Wax	50
Mineral Oil	440
Borax	10
Water	350
	1000

Innumerable variations can be derived from these guide formulas and many have been published. But every manufacturer has to do his own adjusting according to the raw materials and process used. Beeswax above all is a variable product, and so many factors influence the formation of the emulsion that nobody has as yet figured out a foolproof set of rules which can lead to uniform results. Nevertheless, there is no reason to be scared, because the manufacture of a cold cream is still a rather simple process. All the waxes and oils are melted together in the kettle in which the cream is to be prepared. In another kettle the borax is dissolved in the water. This solution is run into the wax-oil mixture at an even rate under continuous stirring. Both phases must be at the same temperature, which should be slightly above the melting point of beeswax, specifically, within the range from 65° C. to 70° C. Keep stirring until the temperature of the cream is down to about 50° C., when perfume is added, and fill immediately from the manufacturing kettle into jars at a temperature around 40° C., depending on the consistency of your cream.

As to equipment, the minimum requirement is one jacketed kettle with a good agitator which is capable of mixing the contents well, not merely of turning the whole mass around. Anything more fancy is fine and will contribute to a more elegant and efficient running of your process but will not necessarily result in a better product.

It is a most reassuring feature of beeswax-borax creams that they will stand a lot of handling, almost to the point of abuse. They can be filled when liquid and will set nicely in the jars. They can be pumped. They can be reheated if necessary, although it is better to fill out each batch completely. And they will keep well, provided the formula is well balanced to begin with. To determine this with certainty there is nothing like prolonged shelf-testing of an actual manufacturing batch—not a laboratory experiment. A responsible manufacturer will not market a cream before having himself thus assured of its stability.

The selection of the perfume is not much more of a problem for this type cream than for any other cosmetic. The matter of discoloration needs some consideration, but excludes only a few aromatics entirely so that there is a practically unlimited range of odors available. Rose is the perfume generally associated with cold cream due to its derivation from the pharmaceutical rose water ointment, and the best selling cold cream on the market features a rose odor. If you are uncertain about the choice of a perfume, rose is your safest bet. However, any type odor is acceptable as such. There are no rules—except one, and this is very important and valid for all cosmetics: In selecting the perfume you cannot trust your own judgment! Nor the preference of your wife or the pronouncements of a few of your office girls. The only sound way of finding out whether or not your product carries the necessary nose appeal is to get the verdict of a sufficiently large number of consumers who are representative of the class towards which you plan to direct your sales efforts.

How much perfume to put into cold cream? As little as possible, to prevent a disturbing effect when ap-

(*Continued on page 286*)

USEFUL BASES FOR SULFA DRUGS

By W. B. BAKER*

A commentary on, and compilation of, ointments and ointment-like bases including some of the newer ointment-emulsions, jellies, creams, suspensions, etc., which may be considered as carrying agents for SULFONAMIDES which are used topically.

Most clinicians consider it unnecessary to use the "sulfa" drugs internally in such conditions as minor pyogenic dermatoses, partly because the potential danger of invasion of the blood stream from localized lesions exists even after the blood has been sterilized. The preference in such cases is for local use of these drugs.

Furthermore, investigations have shown that there are certain dermatologic and other infections in which sulfonamides are definitely of value when the drugs are applied directly to the lesion.

Consequently, for the most part, the local use of sulfonamide drugs, and preparations containing them, has been well received.

There are several reasons for combining such drugs with bases for topical application. Most external preparations permit the even distribution of the drug. Certain ointment preparations offer the advantage of keeping the medicament from being washed away by exudation resulting from a local lesion.

Many literature reports have been written on, or have included, the subject of bases for sulfonamide drugs. Some observers give logical reasons for preferring grease bases, while others favor aqueous bases, etc. Still other clinicians apparently do not think the nature of the base important because, in discussing therapeutics, they may mention the fact that they use "an ointment, etc." but they do not state the formula.

A variety of "sulfa" formulas and bases for such formulas, which are reported in the literature, are reviewed here. (Ordinary *solutions* of sulfonamide drugs are not included.) Where a procedure is given along with the formula, in most cases the procedure as outlined is for relatively small quantities of the preparation. However, modified procedures can easily be adapted to the preparation of large batch sizes in the manufacturing laboratory.

OINTMENT BASES

Petrolatum is the most extensively used base, or carrier, for ointments in general. Its advantages have been known for a number of years. Many "sulfa" ointments are prepared using petrolatum or white petrolatum as the sole base for the medicament. Some of these ointments also include 5% to 10% of lanolin as part of the base, especially where it is preferred that the medicament first be made into a paste with a small amount of water prior to incorporation with the petrolatum; the purpose of the lanolin in such cases being, mainly, to absorb the aqueous suspension of the drug. However, it has been observed that too large a proportion of lanolin in sulfanilamide ointments may have a tendency to cause "caking" in wounds.

The sulfonamide drugs are combined at times with other medicinal agents, with a base similar to the kind described above. An example is a formula[1] which combines sulfathiazole, 10%, with salicylic acid ointment, 2%.

In the following formula sulfathiazole is combined with cod liver oil, a base which functions not only as the main vehicle in the preparation, but which also possesses medicinal properties of its own:[2]

Sulfathiazole		6.0
Cod liver oil	60.0	qs.
White wax	40.0	

Melt the white wax at a high temperature, add the cod liver oil and stir quickly. Continue the heating for at least an hour and a half. After the mixture has been allowed to cool, the sulfathiazole is added in sufficient quantity to make the finished preparation a 6% sulfathiazole ointment.

It is stated that the cod liver oil-white wax base, prepared as described above, will withstand auto-

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claving without separation of ointment. If desired, sulfanilamide may be used instead of sulfathiazole.

Some earlier investigators[3] suggested the suspension of "1% sulfathiazole in cod liver oil or . . . in a cod liver oil ointment with vaseline as a base." However, the proportions of neither the cod liver oil nor the vaseline were stated.

The U.S.P. XII contains two general ointment bases, namely, White Ointment (containing 5% each of wool fat and white wax, and 90% white petrolatum) and Yellow Ointment (containing 5% each of wool fat and yellow petrolatum, and 90% petrolatum). Where a greasy base is desired, there is no important reason why either of these U.S.P. bases, or modifications of them, cannot be used for the sulfonamide drugs.

Ointments of sulfanilamide, sulfathiazole and sulfadiazine are under consideration for pharmacopoeial recognition by the U.S.P. revision committee. However, up to the time of this writing, no announcement has been made concerning the prospective bases for such ointments.

Although many of the "petrolatum-base" sulfonamide ointments are being employed to very good advantage in a variety of cases, especially where limited and slow absorption of the drug is desired, there are many other instances where the greasy and occlusive properties of petrolatum may be undesirable.

For instance, some clinicians believe that heavy grease bases are contraindicated where there is much secretion because such bases, being immiscible with the serum, do not penetrate and therefore hinder local action. Furthermore, the removal of ointments prepared with such bases is sometimes difficult.

Other observers criticize grease bases because they may "seal off" the affected area and, in covering the underlying infection, may furnish an anaerobic pocket in which the infection may thrive.

Many dermatologists prefer not to use an ointment with a greasy base for certain types of dermatitis. Also, newer therapy in the treatment of burns and other local conditions places emphasis on bases or carrying agents of the non-greasy kind, or at least of the kind in which petrolatum does not predominate.

The laboratories of the American Pharmaceutical Association[4] suggest formulas of sulfadiazine which are said to be "washable," i.e., easily removed with water or saline solution. Pectin is utilized in some cases (either to form a jelly or to act as an emulsifying agent and form an ointment-emulsion), and some of the higher alcohols (to form emulsions or creams) in other cases.

Although the formulas suggested by the above-mentioned laboratories are preparations intended primarily to be used in the treatment of burns, in the case of those formulas in which sulfadiazine is the main therapeutic agent, the formulas may be useful in the treatment of other conditions where a "washable" sulfadiazine preparation is indicated. Also, with proper modification of the bases to take into account the differences in solubilities, there is a good possibility that sulfanilamide or sulfathiazole may be used instead of sulfadiazine.

"WASHABLE" JELLY BASES

The main object of using pectin in such bases is to utilize its ability to form a jelly so that the preparations can be "easily removed with water or saline solution." This function of pectin differs from its behavior with mineral oil. (When used with mineral oil, pectin may behave in the same manner as acacia,[5] in that oil-in-water emulsions may be prepared with mineral oil as the oil phase of the emulsion.) In addition to its other functions, pectin is said to possess healing properties.

The following formula, which depends on pectin to produce the jelly-like appearance of the finished product, is recommended[4] for a "Tannic Acid-Sulfadiazine Jelly:"

Pectin, N.F. VII*	5.0
Tannic acid	10.0
Glycerin	12.0
Sulfadiazine	5.0
Methyl parahydroxybenzoate	0.2
Sodium sulfite	0.2
Ringer's solution**	67.6

Mix well the pectin, glycerin and sulfadiazine to a smooth paste. Dissolve the sodium sulfite, methyl parahydroxybenzoate and the tannic acid in boiling Ringer's solution and add to the pectin paste, stirring well until it cools down to room temperature.

Another pectin-base formula, in this case for 5% sulfathiazole, is given[6] as follows:

Sulfathiazole	5.0
Pectin	10.0
Benzoic acid	0.2
Ringer's solution	84.8

In the above formula glycerin may be substituted, for the Ringer's solution, for its anti-drying action without impairing the action of sulfathiazole.

A plain sulfadiazine jelly containing tragacanth for consistency may be prepared by using the following formula or a modification:

Sulfadiazine	5.0
Tragacanth	1.0
Glycerin	83.0
Preservative, i.e.,	
Methyl parahydroxybenzoate	0.2
Distilled water, qs	100.0

Use sufficient of the distilled water to make a smooth paste of sulfadiazine. To the balance of the distilled water, add the glycerin and the preservative and bring to a boil. Then dis-

(*Continued on page 319*)

*A source of Pectin, N. F. VII, is the California Fruit Growers Exchange, Products Department, Ontario, Calif.

**Ringer's solution, U.S.P. XII:

Sodium chloride	8.60 Gm.
Potassium chloride	0.30 Gm.
Calcium chloride	0.33 Gm.
Distilled water	1000 cc.

CAKE MAKE-UP

By H. HILFER*

The popularity of this recently introduced type of make-up calls for a discussion of the subject. In this article will be found practically all of the answers on the formulation, use, and effects of Cake Make-Up.

THE initial introduction of cake make-up to the cosmetic consumer was accepted wholeheartedly and now has gained a permanent place in most cosmetic lines. The cake make-up has earned its popularity because it apparently offers features which cannot be found in other preparations, and though it is rarely used without other cosmetic aids, it so improves milady's appearance that it has gained wide acceptance.

It primarily provides a flat smooth finish to the skin and then helps to mask any otherwise apparent defects on its surface. The different preparations differ in various features but the two effects mentioned above are the ones to which it owes its popularity. The film after application may be made water repellent in various degrees and may have varying degrees of masking power; it may be shiny or dull, but unless it fulfills these primary requisites it will not be commercially successful.

United States Patent 2,101,843, describes such a product in great detail and sets up the limits for the raw materials used in its preparation. It provides for an emulsifying agent so that when the dried cake is rubbed with a wet applicator an emulsion will form on the surface and transfer to the applicator which in turn will transfer it to the skin. The patent also teaches that the ratio of pigment and fillers to oil in the formula has an important effect on the masking power of the film. The greater the percentage of oils, the lower is the masking power of the film and vice-versa.

The ideal product is one that is picked up easily with a wet applicator through the medium of an emulsion or some other medium, and is capable of being applied to the skin in a fairly uniform layer. At this point there is a division of methods, depending on the product. Some specify that the film be blended into the skin while moist, by means of the fingers or with cleansing tissues, while others direct that the film be allowed to dry and then the excess brushed off. The film after application should be able to withstand the ravages of a normal day in which it is subjected to moisture in the form of perspiration, and normal differences in temperature, such as between outdoors and indoors. It should then be easily removable with soap and water.

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Choice of pigments is important since many of them are somewhat soluble in water or capable of bleeding and therefore may darken or may streak when perspiration occurs. It is difficult to make a blanket rule in this regard. Many manufacturers avoid the use of lakes since the offending colors are of this type, but it should be borne in mind that many of the lakes are completely impervious to water. The inorganic pigments available for cosmetic use are all suitable for this purpose, but a greater variety of effects may be obtained by the additional use of lakes. Careful selection of the proper lakes in conjunction with the use of inorganic pigments will probably give any desired results.

The formulation of the filler is an important part of this work. Titanium dioxide and zinc oxide may be used to enhance the masking properties of the product. The proper amount of these agents is therefore of prime importance. Kaolin or colloidal clay may be used effectively to increase the physical binding properties of the cake after pressing. A superfluity of this material on the other hand may cause the cake to absorb too much water and cause the film to roll, producing an uneven film. The amount of chalk governs its efficacy in enabling it to be either the brush off or the blending type. The formulator may use his own ingenuity insofar as he is concerned in obtaining special effects. Certainly there is a host of materials available which may be used to advantage.

Talc is used as a filler and is a good one because it is so completely stable a substance. Care must be exercised in choosing a grade which is comparatively free of "sparklers" since the presence of an undue percentage of these will cause an undesirable shininess. This effect becomes pronounced in a preparation of this type.

The choice of the components of the oil phase of this preparation depends on the effect desired. Light or heavy mineral oils may be used depending on the degree of "oiliness" desired. Other substances may be used in conjunction with the oils to produce the plasticity sought. Vegetable oils, which many cosmeticians believe to be superior to mineral oils in their effect on the skin may also be used, but with caution, since their close contact with Iron-oxide make them par-

ticularly vulnerable to pro-oxidant activity and can easily become unpleasantly odoriferous upon standing.

The methods by which the various components may be made into a homogeneous whole are many and varied. The patent referred to describes the manufacture of an emulsion containing water, oils, an emulsifying agent, and humectant materials such as diethylene glycol. This emulsion is then added to the powders in a suitable vessel and mixed to form a paste, which is in turn put through the roller mill to produce a greater intimacy between emulsion and pigments and filler. The paste is then dried, pulverized and pressed into cakes.

Another method consists in adding all the ingredients other than the pigments and fillers to the powders, after they have been intimately ground and mixed, mixed well, and then ground and pressed into cakes. It is not the purpose of this article to choose a superior method. Let us say that it is important that the several components be well mixed and ground together to produce a homogeneous whole. The pressing operation itself depends more upon the formulation than it does upon the actual mechanical operation. If the formula has too high a percentage of a material such as chalk it may have a tendency towards friability, and therefore be too easily broken. However, the introduction of the proper amounts of oils will have a tendency towards overcoming this defect. The use of gums as binders also will help overcome this objection. Although the ideal method is to press into metal cups and then package the whole in containers, since metal has become scarce due to the exigencies of war, many manufacturers are successfully pressing directly into glass or plastic containers.

The most common complaint voiced against the cake make-up is its tendency to dry the skin. Whether this is a psychological complaint caused by a "drawing" effect due to too rapid evaporation of water, or is due to the degreasing effect of emulsifying agents present in the product, it is difficult to say. It could be the result of one or of both. On the surface it would seem that if the emulsifying agent,—a substance which must also have surface tension reducing qualities,—were reduced in the formula, both the defects would be overcome, since increased surface tension would cause a reduced evaporation rate and a reduced degreasing tendency. It should be remembered, nevertheless, that there are other factors capable of causing dryness of the skin. The exponents advocating the use of vegetable oils in preference to mineral oils claim that the use of vegetable oils eliminate this objection also. Under any circumstances, this condition may be overcome to a large extent by designing the product so that—as thin a film as possible is in contact with the skin. By doing this the amount of offending agent in contact with the skin is reduced to a minimum, and there would therefore be less chance of irritation.

In the regular manufacturing procedure the importance of keeping conditions uniform from batch to batch cannot be stressed too highly. This is particularly true of drying temperatures and the degree of fineness to which the powder is pulverized. The color houses have been doing a splendid job in supplying colors during war time, but through no fault of their own, off color batches have been sent out. Matching of the color to a standard before incorporation in a batch would help the manufacturer a great deal.

The criticisms of procedure offered in this article have not been made without some cognizance of the difficulties encountered in routine manufacturing at this period. A splendid job is being accomplished in the face of both major and minor irritations, substitutions and shortages. These ideas are merely offered as possible future lines of investigations which may be worthwhile, when the time is available to pursue them.

Cosmetic Creams

(*Continued from page 282*)

plied, and as much as necessary to cover the odor of the waxes. This happy medium will generally be achieved by the use of from .2% to .4% with ½ of 1% as the top limit.

While we have been speaking only of cold or cleansing cream so far, the same beeswax-borax base is also widely used for Overnight or Emollient creams. For those the formula may return from the use of mineral oil to the vegetable oil of the USP ointment, and the emollient effect may be further enhanced by the incorporation of lanolin or a lanolin concentrate. Thus formula D may be modified to make a "rich" cream as follows:

F

Beeswax	65
Ceresine	90
Ozokerite	10
Lanolin	150
Vegetable Oil (Almond, Peanut, Raisin Seed, Olive)	400
Water	276
Borax	9
	1000

If vegetable oil is used it should contain a preservative to prevent rancidity. The formula should be so adjusted that the cream is not excessively heavy and tacky, yet has enough body to hold the oil. It is common practice to color emollient creams. This can be done either by using an oil-soluble color in the oil phase or a water-soluble color in the water phase. Perfuming is a little more complicated because the ingredients have a stronger odor than those of plain cold cream. Particularly the lanolin smell has a tendency to come to the fore, specially on the skin. This means not only a higher percentage of perfume, from ½% to 1%, but also the selection of an odor which will blend well with that of the product. The manufacturing procedure is essentially the same as for cold cream.

PERFUME MATERIALS IN THE WAR

By DR. ALEXANDER E. KATZ*

Ever so many of the ordinary sources of our perfume oils and perfume raw materials are closed to us because of the war that many wonder how perfumes can still be produced. This article tells you how the problem is being overcome.

THERE is probably no other industry which is so world-wide in scope as the essential oil industry from the viewpoint of the sources of raw materials which have been gathered from all corners of the earth. One could make a global map showing the origin of every essential oil, and other ingredients in perfumes coming from different parts of the world.

The problem of obtaining supplies in the present emergency would not be so serious if the manufacture of some of the essential oils which could be made from materials cultivated in the United States, and the manufacture of synthetic aromatic materials, had not been hampered by the war effort. When the war clouds appeared, many manufacturers of synthetic aromatics who had been in business since the last war knew that perfume materials would become scarce and they did whatever they could to provide for their future requirements. The steady increase in prices before ceilings were established, caused a lot of disturbance and desire to secure additional stocks of materials which were becoming critical. In the United States distributors, dealers and speculators bought whatever they could lay their hands on and the law of supply and demand became much more than a theory in text-books on economics. As prices on natural raw materials rose, the prices on synthetic aromatics went upward. In addition to what is known as a "sympathetic" rise, there were two very real reasons for this upward movement in the prices of synthetic aromatics. In the first place, users of perfume raw materials finding out that the cost of such common ingredients as oil of bergamot was tenfold the original price, and with no end in sight, turned to synthetic aromatics with which they could substitute the natural product. This was noticeable not only in such materials as bergamot, lavender and other essential oils, but also in more expensive products, such as, floral absolutes. In the reproductions of the essential oils and absolutes synthetic aromatics were used at first with whatever was available of the natural products. Then little by little they replaced the natural products entirely because there was no possible chance of obtaining additional quantities of natural materials This, naturally, created increased demand for the synthetic products causing sharp rises in prices and shortages of materials in the market. The second reason was that many of the synthetic materials are, in turn, made from natural products in form of isolates. Such products as citral and innones which are made from lemongrass oil; geraniol, citronellol, hydroxycitronellal, synthetic menthol made from citronella oil, linalyl, acetate and other esters, which are made from Mexican linaloe wood oil, Brazilian or Cayenne bois de rose, and many other isolates made from natural materials began to show sings of shortages as shipments from South American countries were greatly curtailed.

Furthermore, the production of aromatic chemicals derived from coal tar and other sources, was also curtailed due to the unavailability of materials which were required for the war effort. Materials which are made from toluol by chlorination, like benzyl chloride or benzal chloride from which benzyl alcohol or benzyl aldehyde and many other materials are made. Besides all this there was great difficulty in obtaining various chemical reagents needed for the manufacture of synthetics, and one would think that nothing was left but to give up the thought of the manufacture of perfume materials for the duration.

However, as each day the hope of obtaining anything to make a "decent odor" became darker and darker, a host of expert research chemists and perfumers began to work harder to solve this problem. It was important to look ahead and to create new substitutes for already existing substitutes as no one actually knew which was the next "marked" material which would disappear from the market due to its critical condition. We know that the United States was always capable of producing such essential oils as peppermint, spearmint, wormwood, wormseed, sassafras, wintergreen, and lately, dill weed was produced very successfully in the Pacific Northwest. On a small scale it has been proved that such oils as coriander fennel, clary sage and sage brush could be produced in the United States, however there was not much enthusiasm shown by many growers and distillers to accomplish a real production of these products. There is nothing new in the idea of growing necessary botanicals to produce essential oils in the United States. The

*President, Florasynth Laboratories, Inc.

whole question lies in the cost, as in the case of coriander where the writer experienced cultivation and production of the oil on a small scale. However, due to the shortage of labor this idea had to be abandoned. A number of the leading men in the industry had given this much thought long before the war, but the difficulties were so many that even to list them would be almost impossible. When the outbreak of the war removed the question of competition to such an extent that even limited experience and the question of yield was eliminated, the lack of equipment and shortage of labor practically closed the road in this direction. In spite of this, some progress has been made in the production of a more varied supply of synthetic materials, and not only the United States began to manufacture larger amounts of substitute materials but also Mexico and some of the Republics of South America have put much more effort in the production of natural products. Were it not for lack of shipping facilities our Latin-American neighbors would really be of great help to us, as a material like lemongress which formerly came from the British East Indies and Madagascar, is now being produced in Guatemala, Honduras, Haiti, Brazil and in limited quantities in our own Florida.

While many of the suppliers of perfume raw materials were investigating new regions in North and South America, new plants and new methods of production were studied and in many cases problems were solved. Substitutes for natural perfume oils is nothing new. Even when oil of bergamot was a drug on the market and there was more otto of rose in this country than could be used for years, and hundreds of other oils could be had for the asking, someone always wanted something just a little cheaper, if not as good. The demand for cheaper products gave chemists in the perfume industry the incentive for an extensive research knowledge of which has been utilized to great extent during this emergency, as in studying natural aromatic constituents of essential oils many of the oils have been reproduced at the present time by skilled chemists.

Before the first World War, Germany has contributed a lot toward scientific research in this branch of chemistry. Since that time much research had been carried on in various scientific institutions throughout the world. The work has continued with remarkable results in various Institutions of learning, in France and England, and lately very important developments in this line have been achieved by Soviet Russia. There are numerous publications indicating that enormous progress in Soviet Russia has been made in the past twenty years.

When the great emergency came, skilled chemists and perfumers were not afraid to go off "the beaten track," and in addition to studying the constituents known to be present in various essential oils, they investigated various new materials never or little used previously in perfumery. They were able to obtain interesting results by adding new ingredients which they knew were not present in the original essential oil they were trying to duplicate by synthesizing them.

Some of the synthetic reproductions of natural essential oils which can be used in perfumery, follow:

Anethol Synthetic which answers all of the specifications of anethol derived from oil of anise, is an important raw material in the product of anisic aldehyde.

Oil of Sweet Basil which is used as a sweetener in the perfume industry. The substitute is now being reproduced by using methyl chavicol, linalcol and cineol. Linalcol is a derivative of Mexican linalcol wood oil, or from Brazilian bois de rose. In the Soviet Union it is produced from coriander oil. Cineol is a derivative of eucalyptus oil.

Bergamot Oil: This product has always been imported into the United States. Large quantities were used in the perfumery and cosmetic industries and only very small quantities were employed in the making of flavors. At the present time bergamot oil is entirely substituted by a synthetic product made from linalyl acetate, methyl anthranilate and lemonene, which is a by-product in making terpeneless lemon, or orange oils.

Cassia and Cinnamon Oils were always imported from the Orient and Ceylon. Satisfactory substitutes are made from cinnamic aldehyde and small amounts of esters of cinnamic alcohol used in "spice" perfumes.

Citronella Oil, which is used mostly as a mosquito repellent, is reproduced by using citronellal and hydrocarbons derived from citronella oil. These are by-products in making geraniol from citronella and have, practically, the same qualities as an insect repellent as citronella oil itself. Methyl eugenol to the extent of one per cent can also be added. This substitute is also usable for perfuming soap and can be used as a deodorant in many technical products.

Coriander Oil: This is reproduced synthetically by using linalcol derived from Mexican linaloe, or rosewood oils, also by the addition of small amounts of pinene and cymol.

Geranium Oil, which was a product of importation from Algiers and Reunion Islands, is reproduced from geraniol and citronellol and their esters, diphenyl methane and diphenyl oxide. The latter two products are not constituents of geranium, however they definitely have geranium odor. Phenyl ethyl alcohol and its esters are also valuable in reproducing geranium.

Lavender Oil usually came from France, Spain, and small quantities from England. This product is reproduced from linalyl acetate, which is one of the constituents of lavender oil. Coumarin, geraniol and its esters are very useful in the reproduction of lavender.

Jasmin Oil could be produced from benzyl acetate, paramethyl benzyl acetate, alpha amyl cinnamic aldehyde, indol and benzyl alcohol. The product could be reproduced very satisfactorily by using proper proportions of these aromatics and many other ingredients.

Otto of Rose and Rose de Mai can be reproduced by using geraniol, citronellol, phenyl ethyl alcohol and its esters and other rose like products.

Packaging and Selling

Dorothy Gray's

CELLOGEN CREAM . . .

TO HELP OLDER SKIN LOOK YOUNGER

5.00

Think of a young skin . . . soft, glowing, radiant . . . supplied by nature with an ingredient that contributes to its youthful look! Now Dorothy Gray Cellogen Cream supplies *older* skin with a glandular young-skin ingredient . . . Bioctol. Tests show that when used as directed Cellogen Cream imparts a look of vitality to faded and sallow skin. You'll find yourself watching in grateful wonder as your complexion takes on a younger look! Cosmetics, Street Floor

Hormone Creams

Those of our readers who fancy themselves as trend spotters will no doubt have discovered the fact that the gland or hormone cream, after a long and checkered career, has at last finally arrived and appears to be here to stay. New ones are appearing, others are being prepared for the market and, in general, there are all of the familiar-to-trend-spotters signs that thanks to estrogen, the hormone cream is now launched, commissioned and in action.

It all takes us back to 1932 or thereabouts when Dr. Dave Klein of Wilson Laboratories got started on an enthusiastic discussion of the possibilities of hormones in cosmetics. We were so stimulated by his enthusiasm that we climbed right on the bandwagon and whipped out several high-sounding phrases about the dawn of the therapeutic era in cosmetics being upon us.

At or about the same time, Louis Philippe, Inc., doing business as Hormez Laboratories, introduced and marketed Hormez, thus making it, so far as we know, the first cosmetic preparation containing an estrogenic hormone to be placed on the market in this country. We showed Hormez in our issue of February 1933 and it is reproduced here again some eleven years later, although by all but a comparatively few people it has long since been forgotten. The first hormone cream had been greeted with the familiar surge of apathy.

There were probably times in Endocreme's career when it would have welcomed a little apathy, particularly in certain quarters. Launched about the middle of 1937 and by the end of that year going like a house afire, it was unceremoniously and unfairly flattened by Dr. Morris Fishbein and his cohorts a few months later. Apparently ruined at the start of a brilliant career, Endocreme nevertheless fought back gamely and strongly in a welter of suits and counter-suits which are no part of this story. Some stores closed it out entirely, others put it under the counter and produced it on call, others carried it more or less openly, but the promotional impetus was destroyed by the sweeping charges made in the A.M.A. attack. It looked as though Endocreme was through.

But in spite of everything, Endocreme continued to sell. Buyers who kept it in stock marveled at the tenacity with which it clung to life and then slowly began to pick up again. Although there are those who doubt that even today Endocreme has climbed back to the volume figures established in its first flush of youth, still there is no question that it is selling very well and doing all right.

Look Younger..

Gourielli

Estrolar Cream

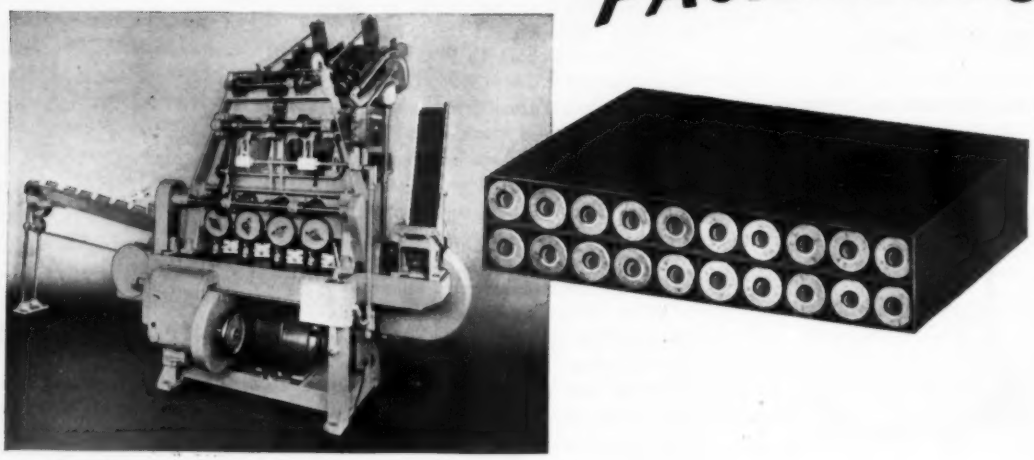
Here's blessed news for the woman over 30 who wants her face in harmony with her full, active life! Estrolar Cream contains Biocine,* the equivalent of an estrogenic substance abundant in youth but diminishing with advancing years. Used as directed, Estrolar is an important aid in attaining a youthful appearance of face and neck. 30-day supply, 3.50. Twin jars, 10.00.

ERMINE FOUNDATION. Keeps make-up fresh and lovely all day. Conceals little flaws. 2.00, 3.50.

*Trade Mark

In the meantime, others were experimenting with gland creams and hormone creams and at intervals others appeared on the market. This is no attempt to take a complete inventory of

Out of this will come better PEACE-TIME PACKAGING



This machine, of our design and manufacture, loads .30 caliber cartridges into a carton of special design, which holds 20 cartridges. Carton has a liner in cardboard sections, so that each cartridge is kept separate.

YOU will want to challenge post-war competition with the assistance of the most efficient, cost-reducing wrapping machinery available. You will likewise need machines that can turn out a package with a *selling plus.*

You can expect such machines from an organization that has kept its skill sharp and its ideas fresh in WAR WORK.

We have been building new wrapping machines right along to meet war needs. Moreover, many of the armament machines we have designed and built embody mechanical principles applicable to wrapping machines—cartridge box filling machines, such as the one shown here, cartridge loaders, clip loaders, cartridge linking machines, etc. And all of the equipment we are producing calls for the highest type of designing skill and the finest precision workmanship. Gyrocompasses for the Navy are an outstanding example.

We are ready to study your post-war replacement needs, as well as any new packaging plans you may have in view. *Write or phone our nearest office.*

SEE US AT THE
PACKAGING EXPOSITION
PALMER HOUSE, CHICAGO
MARCH 28-31
BOOTH 207-208

PACKAGE MACHINERY COMPANY
Springfield 7, Massachusetts
NEW YORK CHICAGO CLEVELAND LOS ANGELES TORONTO

PACKAGE MACHINERY COMPANY
Over a Quarter Billion Packages per day are wrapped on our Machines

such products but the following are some of the more important ones with some indication of how they are sold.

Arden, for example has a cream called "Joie de Vivre", which is described as "a rich emollient cream to be used particularly on areas with a tendency to lines to help keep skin soft and nicely textured. Only a little need be applied at a time. Contains active ingredient: Natural Estrogenic Hormones 0.60 per oz." This compares with Endocreme's "4000 (RU) units of Activol Natural estrogens."

Rubinstein has the Gourielli Estrolar Cream which contains "Biocine, the equivalent of an estrogenic substance abundant in youth but diminishing with advancing years. Used as directed, Estrolar is an important aid in attaining a youthful appearance."

Dorothy Gray is a fairly recent arrival with Cellogen Cream which "supplies older skin with Biactol, a glandular young-skin ingredient which skin absorbs with benefit. Apply to face and neck after cleansing. Allow to remain on skin for at least ten minutes preferably over night. Imparts a look of vitality to faded, sallow, aging skin. Glandular activity diminishes after 30, contributes to the fading of the skin and loss of youthful tone. Used faithfully this cream helps replenish the desirable ingredient to which skin responds with improved color, freshness, vitality."

Vita-Ray, too, is readying a product called "Dermaskin" which is also a hormone cream of the same general character as these others. It will probably sell at about the Endocreme price of $3.50 for a two-ounce jar. Estrolar is $5.50 and Cellogen $5.00 for two ounces, while Joie de Vivre is $5 for about an ounce with a smaller size also available at $3. Others are undoubtedly on the way for the time seems to be right and nobody wants to miss this bus.

Single Dose Hypodermics

The British drug and packaging papers are showing a single dose hypodermic designed to meet the need of the armed forces in the field. It presents "a single parenteral dose of sterile solution of morphine or other drug, sealed in a collapsible tube with a welded closure and a sterile hypodermic needle mounted in the nozzle. The needle is protected from damage and contamination by a neat plastic cap, which is threaded and sealed on to the nozzle of the tube. Removal of the cap and piercing the internal seal with the pin provided renders the ampoule syringe ready for immediate use."

We can't remember exactly when we first heard of these but it was either just before or just after Pearl Harbor. However, the idea seemed to be that this newest single-dose container was among the things to be kept secret so that this is the first published material we've seen on it and the hush seems to be off. Needless to say the armed forces still take all that can be made and they have proved very useful in the field, permitting a wounded man to ease his own pain provided he can use even one hand and his teeth.

Perfume for the Blonde

Dana's "Platine" perfume which has been expected in the American market for many months, has now made its appearance in limited quantity. The perfume, described as the fragrance for the blonde, was originally introduced in Paris the year before the war. Platine comes in a bottle of modern design set in a gray velvet jewel case and retails at $22.50 an ounce.

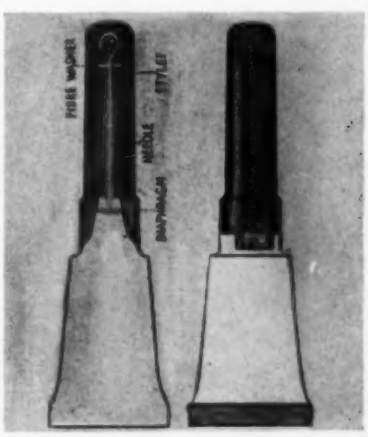
Speaking of Firsts

Recently we have been rooting around in the origins of the cosmetic industry in this country because we feel that it is essential to get more of the facts into the record before they become lost or so cloaked in fancy that they become valueless. This is an enterprise fraught with danger, for the minute we come out and say something or other was first we receive seventeen indignant or sarcastic letters from readers saying it ain't so. However, we persist, for it's one way of ferreting out the truth and getting at the facts in what is an endlessly fascinating story.

With the help and cooperation of William Bonyun, general manager of Daggett & Ramsdell, we have dug up and herewith present a few firsts connected with the early history of that organization. We believe and Mr. Bonyun believes that these are facts and important facts in any history of the American cosmetic industry. However, if they evoke any denials or reminiscenses that, too, will be so much to the good and we'd be delighted to have them.

Although cold cream had been on the market for some time and in fact was officially listed in the Pharmacopoeia, it had always been made with vegetable oils until 1890 when Daggett & Ramsdell made and marketed the first mineral oil cream. Knowledge of preservatives was apparently limited for the vegetable creams always went rancid while the great advantage of the mineral oil creams was that they did not spoil.

At that time cosmetics were sold only in drug stores and the chances are that many, if not all, of the first cosmetics sold were compounded and sold by local drug stores like that of Daggett & Ramsdell. However, in 1901 the first



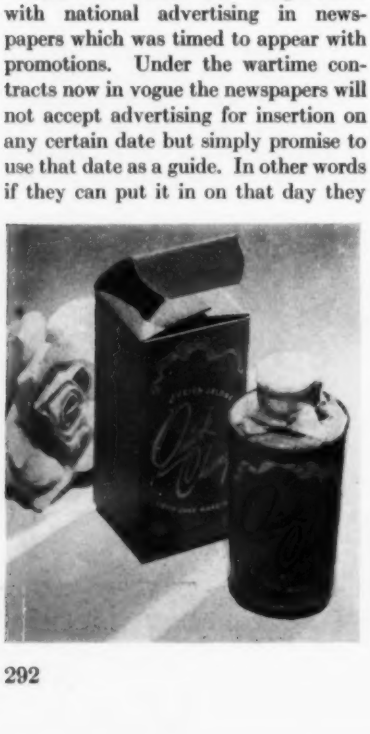
department stores entered the cosmetic distribution picture when three stores—in New York, Philadelphia and San Francisco—agreed to sell the Daggett & Ramsdell Perfect Cold Cream. Two of the stores, Stern Brothers and Strawbridge & Clothier, are equally well known today while the identity of the San Francisco store has become lost through the years.

The first advertising of the Daggett & Ramsdell cream was in 1897 and the medium used was the New York City Theater Programs, with $900 worth of space. The following year the appropriation was doubled and the third year, that is, 1899, the New York City Street Car Advertising Co. was added with one-quarter run of cards at $225 per month. As the distribution spread to other cities throughout the country, other street car advertising was used and in 1905 Daggett & Ramsdell engaged in what was perhaps the first national advertising of face creams using several of the magazines of that time. These ads offered what may well have been the first beauty booklet "Beware the Finger of Time." For ten cents readers could get a copy of the booklet and a trial tube of Perfect Cold Cream. At that time, the cream was packaged in both tubes and jars, the tubes at 10 cents and 25 cents, and the jars at 35 cents, 50 cents, 85 cents and $1.50, and the slogan was, "D & R Perfect Cold Cream—The Kind that Keeps."

Advertising that Jumps the Gun

There have been a few sad experiences with national advertising in newspapers which was timed to appear with promotions. Under the wartime contracts now in vogue the newspapers will not accept advertising for insertion on any certain date but simply promise to use that date as a guide. In other words if they can put it in on that day they will, but otherwise it will go in some day that week, always providing they can find the space. Now we, and perhaps others, have always assumed that the insertion date would be a subsequent one, but we have heard of several cases lately where the advertising appeared before the promotion broke.

There is no need to emphasize the embarrassments which this can cause for it always happens when your best account in a city still hasn't received his stock while the lesser guys are always well supplied. It's hard enough keeping some of the latter in line anyhow as they'd always like to beat the gun but when your advertising, through no fault of your own, does the same thing it sure raises hob and calls for miles of explanations.



Liquid Versus Cake Make-Up

While the vogue for cake make-up is certainly still at its peak, the rush seems to be on for "liquid cake" make-up (whatever that means!). There may be several reasons for this new type of foundation. One possibility may be the success of Westmore's "Overglo." On the other hand, perhaps manufacturers not yet in the cake market feel that the remaining opportunities are greater amongst those who are aware of the disadvantages of cake make-up.

Cake make-up is still on the rise but the drying effect of this type of preparation is pretty well agreed upon and also the fact that the younger women are by far the best customers. It is unfortunate that a product should favor young skins which really don't need it at all in most cases, and yet not be favorable to older, drier skins. However, whatever may be said about the disadvantages of cake make-up, it has taken hold because of the wonderful cover up job it does for the skin, and it is now being used more than any other foundation. Besides, the extensive advertising put behind this type of product has done more to make women foundation conscious than all of the other foundations on the market for years ever did.

The liquid type preparations, unfortunately, don't seem to have quite that cover-up quality which comes from the wet cake make-up. However, there are those ardent users of Westmore's "Overglo" who claim that the results obtained from this product are as good as cake make-up, if not better. This observation, it might be said, comes from older skins. At any rate, the field for a preparation with all the advantages of the cake make-up, namely, a smooth, velvety appearance (by covering up pores and skin imperfections), and none of the disadvantages, (dryness, unnatural appearance on older skins, etc.) is wide open whether it takes liquid or solid form! The liquid cake preparations now coming into the market are said to do all the things a cake make-up can do without any of its disadvantages. Last month in these pages was noted the introduction of Lucien Lelong's Quick Change, described as a liquid "cake" make-up, a creamy cover up type of foundation to retail at $2.

This month, Vita Ray is introducing a new liquid cake make-up called "Vidafilm." The product is described as a cake make-up in liquid form. It comes in five complexion shades, in a 1½ ounce bottle which retails for $1.50. This will be backed by an extensive advertising campaign in class magazines. Newspaper advertising will also appear in a number of cities, in conjunction with leading retail outlets.

It will be interesting to note the progress of cake make-up versus the liquid cake make-up!

Style Note

When the Marines want something they go after it—even if their objective is nail polish! An officer from the Correct Grooming Department of the Marines approached Charles Revson, president of the Revlon Products Corp., one day with a most important request. The girl Marines wanted a supply of nail enamel that had been discontinued. Why? Because that particular shade matches the red chevrons on uniform and cords on hat. The nail enamel shade is "Bravo." Needless to say, the Marines got the shade, and it will undoubtedly find a place in the Revlon color line once again.

Powder Blending

One of the larger cosmetic manufacturers is reported to be experimenting with a presentation which will be based upon home powder blending. Although there are and have been others who have used powder blending, its effective use as a merchandising weapon has been pretty well confined to and associated with Charles of the Ritz. However, the acknowledged Ritz success has been based upon blending at the counter by trained salesgirls while this new approach would be to make it possible for the consumer to blend her own powder at home. The package as proposed is said to consist of four shades of powder together with mixing bowl and measuring spoon, the whole to retail at $5.

The discussions pro and con revolving about this plan are extremely interesting and if the manufacturer who is actually doing the experimenting is having even half the struggle the sideline experts are having, he is bowed down indeed. It goes something like this.

Up to now powder blending has been done at the cosmetic counter by girls especially trained, with a highly professional manner. She has to have, in addition, considerable skill and a highly developed color sense so that she can produce shades with just the right depth for her customers. It is a fascinating process to watch and, as a rule, completely intrigues the customer.

The question is whether or not the act of blending for herself will appeal to the customer. Of course, the home process would be much simpler since the package would contain only four shades, all of them standard to begin with and there would be no greens and blues, etc., to contend with. In addition, if the consumer has the time and the inclination, she can whip up a powder for every costume, every type of light and every season of the year. The home blending kit gives her an opportunity to play around with a darker or lighter or pinker or more yellow shade, as she choses. However, if she turns out something she likes, she will have the devil's own time duplicating it unless she has measured carefully and made careful notes on how much of each shade she has used.

Up to now, any home blending or mixing of cosmetics has been sold on a price approach. This is obviously not that kind of a story, but upon the kind of a story which accompanies the presentation will depend to a large extent the success or failure of this new approach.

Cosmetic Distribution Helped by War

Many manufacturers are getting a liberal education in distribution during this war period. Changes are being made that in the normal routine of selling and the ruts of an established business would never be made.

Like production methods, distribution often tends to grow like Topsy in a successful enterprise so that the end result looks as if there never had been a plan in the outfit. Unusually successful companies often wake up eventually to find a distribution that is unwieldy, uneconomical and dangerous.

At least four cosmetic companies with a record of rapid and conspicuous success in the last four years have started out with a well-planned distribution on paper. One is out of business; one has held the line and is solidly entrenched; two are doing large business but their distribution is disintegrating into mass sales outlets that in cosmetics "lead but to the syndicates." Progressive yielding to chains, wholesalers, drug stores, accompanied by progressive weakening of their position in the primary stores makes this one of the few choices open to them if they are to maintain volume.

That there is an ideal, or perfect, distribution differing for nearly every product and worth aiming at, many sales managers will agree. Obviously, there is a very different pattern for chewing gum, a five-cent cake of soap, an ethical medicine, or a dollar cosmetic. There are two broad classes of distribution—mass and selective. Most of the dollar volume in cosmetics and in most ethical medicines is found in selective distribution and the restrictive limitations of the war have forced changes that will have permanent value for many companies.

Container and chemical limitations, shortage of manpower for production, travel difficulties in the face of unusually active demand, all tend to cause many companies for the first time in their history to examine their dealer set-up and their whole distribution plan with critical eyes. Of first importance to their minds is the kind of a dealer set-up that will put them in the best possible post-war position.

Many are finding a very muddy picture. Step by step, concession by concession, many companies which are recognized as national successes find that the picture has become something of which they are heartily ashamed, once it is examined dispassionately by a sales manager who needs less not more business and no particular store.

Take the case of X Cosmetic Company. It started with moderate capital, with a competitive product, but with a new twist that registered a home-run. It had a well thought-out plan of distribution to meet all the demands created by its national advertising and to get the fullest sales help from leading stores. The product caught consumer interest, it was good and repeated, the worthwhile stores liked it and went to town with it. In eighteen months an average exceeding a million a year was rolling in. This company started with the idea of reaching 1,200 department stores, 800 chain A stores, and 4,000 drug stores and then stopping. Investigation convinced it that these stores were the top limit for producing the maximum volume of business for its product in its price range.

Kolmar is in there too.....

while we are fortunate in being able to maintain a generous measure of civilian productivity . . . we are also genuinely and seriously contributing our skill and facilities to a relatively small but tremendously important part in hastening the end of the war.

Kolmar is fighting on both fronts . . . the home front and the war front.

Manufacturers of Private Brands only

Rouge Powder Lipstick

Milwaukee, Wis. Port Jervis, N. Y.

Representatives

Mr. M. C. Boyd,
Quinby Building, Newark, N. J.

Mr. Douglas Haggerty,
122 E. 42nd St., New York City

Mr. Warren Curry,
2504 Alton Road, N. W., Atlanta, Ga.

Mr. Norman Kole,
960 Merchandise Mart, Chicago, Ill.

Mr. R. F. G. Byington,
1260 N. Western Ave., Los Angeles, Cal.

Mr. Richard F. Spicker,
419 West Fifth St., Cincinnati, Ohio

They underestimated the pressure that success produces, pressure from chains and wholesalers who can walk in with big checks to see the president; pressure from hundreds of drug stores; pressure from within, from the very man who first set up the plan, when a big certified check is slapped on his desk. At any rate, X Cosmetic Company began making little concessions and little by little the concessions grew.

Today X Cosmetic Company has a conglomerate bunch of stores. It is discovering that it can't get the enthusiastic, eager sales help from the large dominant store that it once got, before it surrounded the store with the small cutter-inners. It is even finding that the little stores are not so enthusiastic now that the big ones are letting up on promotions. X Cosmetic Company had thoroughly bungled selective distribution and was facing the big-money mass market with a greatly reduced price for its product or a quick move to the syndicates with all that entails.

They believe at X Cosmetic Company that the war saved their skin. Like many others the war has given them a keener perception of what makes stores act the way that they do.

Perhaps they have also found time for a few reflections on cosmetic history over the past twenty years. In an industry whose record of new enterprises and yearly failures is unusually large, one factor is common to all those old-line companies which have shown admirable stability, and that is selective distribution.

The war is certainly not without its benefits to this industry, not least of which is the house cleaning which drops the stores that cannot merchandise, the reluctant payers, the ones whose annual purchases are less than the cost of sales contact, the prestige minuses.

Packaging Show

Packaging and packing requirements for the armed forces will be explained by a panel of Army and Navy officers at the American Management Association's Annual Packaging Conference, held in conjunction with the association's 14th Annual Packaging Exposition, March 28-31, at the Palmer House, Chicago.

At another panel session, experts from the War Production Board and industry experts will answer questions on the status of critical materials.

There will also be a session devoted to case stories in paper conservation and container re-use, and a technical session.

Perfume Sachet

Charles of the Ritz adds a newcomer to its Moss Rose boudoir ensemble in the form of a vasette of body sachet that has been packaged in the same, attractive Victorian design of porcelain whiteness and emerald green garlanded with quaint moss roses. The sachet, new in many respects, is a smooth perfume powder, so highly refined that it vanishes the instant it is buffed onto the skin. It feels like a creamy powder which seems to leave the skin feeling softer and carries a delightful atmosphere of the Moss Rose fragrance. The vasette retails for $2.50, and there is enough perfume powder to last for months.

Tournament of Roses

Revlon's spring promotion which will break April first, will be known as the "Tournament of Roses." Revlon will feature its rose shade in nail enamel, lipstick and the new "Wind-Milled" face powder—Mrs. Miniver Rose, Hot House Rose, Rosy Future, and a rose by another name, Bright Forecast. The package covers are patterned after the old fashioned rose with bases of leaf green. The combinations include "Double Feature," which holds nail enamel and Adheron to retail at 75 cents; "Match Box," with nail enamel, Adheron and lipstick, $1.35, and the "Hat Box," with nail enamel, lipstick, Adheron, and Wind-Milled face powder at $2.50 retail Revlon's promotional packages have been clever and successful and this one appears to be no exception. The 1943 "Victory Crate" used as a promotional package last year was exceptionally good and was awarded, by an imposing jury of department store merchandisers, the 1943 Toilet Requisites Award as the outstanding promotion of the year.

Chains Trading Up

A gain of 3 per cent in sales by chain stores as compared with 10 per cent by independents is interpreted by the Department of Commerce as reflecting the usual consumer trend towards independent retailers during periods of high wages. This interpretation assumes that consumers move from bargains to service when money is easy. On the other hand it may simply reflect transportation shortages and difficulties which result in much more buying at the nearest store than was formerly the case. Or it may be that the results of price maintenance are finally dawning upon the consumer to the extent that he is beginning to realize that price cuts on nationally advertised products are practically non-existent and that it doesn't pay to go looking for them.

In any case, there has been a definite change in chain store trends during the past few years which reflects a change in management policy. The super market and the department store are exerting obvious influence, the super market with its concentration upon fewer stores better equipped for a given market, and the department store with its trained sales help, fine display facilities, and wide selection of quality merchandise.

One of the leading chains, after a two-year test of the super store as compared with smaller scattered units, has laid out definite plans for a reduction of the number of outlets and a conversion of the remaining stores into super stores. These new stores are to be modern, well designed retail centers catering to the consumer who is shopping for quality merchandise. Many of the chains already represent big volume outlets for higher-priced merchandise but this move should increase and emphasize that trend.

IMPORTED BAY RUM IS SCARCE

The Food & Drug Administration now permits, during the present emergency, the use of Isopropyl Alcohol in the manufacture of Bay Rum.

ORBIS

ALCOH-SOL BAY

plus Isopropyl or Specially Denatured Alcohol makes a perfect Bay Rum at a cost of 60 to 75 cents per gallon, depending on the alcohol concentration.

Orbis Alcoh-sol Bay being instantly and completely soluble in dilute alcohol eliminates the troublesome filtration problem. Furthermore, it is the perfect coverage for Isopropyl Alcohol.

If you are interested in getting your share of this profit producer, write now for a circular of complete information.

ORBIS

PRODUCTS CORPORATION

215 PEARL STREET, NEW YORK · FACTORY & LABORATORY, NEWARK, N.J.

CHICAGO
660 North Dearborn St.

PHILADELPHIA
610 Brown Bldg.

BOSTON
89 Broad Street

MEMPHIS, TENN.
1620 Carr Ave.

Water Soluble Gums	Waxes	Cosmetic Raw Material	Fruit Flavors
Thymol	Stearic Acid	Oleo Resins	Food Colors
Aromatics	Essential Oils	Perfume Bases	Quince Seed
Rice Starch	Zinc Oxide French	Olive Oil	Irish Moss

The Cosmetic Trend

There is no denying that post-war moves are considered and begin to affect purchasing policies. Here are some of the questions to which buyers would like to have an answer. What are the industry's plans with reference to packages? Will changes be rapid and revolutionary? Is it contemplated to accept returns for repackaging? Which of the present packages are likely to be retained? Has anything lasting come out of the emergency packaging methods?

What are the chances of retaining war formulas and what changes are due, if any, before the end of the war? Buyers are reading about the renewed availability of some of the ingredients of standard cosmetic products and would like to have some definite information, how this affects the cosmetics they have bought, or what the industry will do in reconverting its formulas to the new situation. This applies also to the various solid, semi-solid and jellied preparations, many of which have gained considerable popularity.

Are the shade-varieties of lipsticks, etc. to be expanded as soon as this becomes possible, or will the industry try to maintain its shade-card upon a narrower selection than the one that prevailed in pre-war days? Buyers have no real opinion on the subject, although they deplore an undue abundance of varieties. However, they would like to know early, because it is of some effect upon what is to be told customers.

Prices are regarded of minor importance. The general expectation is that they will be higher because of the increasing cost of materials, packaging and labor. However, the consumer holds the whip hand. The cost must fit the product to the price expectations of its market. Stores expect a continued prosperity for several years after the war and feel that there is no reason to worry about conditions yet.

More interest is shown in the ability of individual manufacturers to maintain production from here to the end of the war, and after the war has ended. Stores can not afford to push products where the supply may suddenly dry up. Buyers realize that it is not always the manufacturer who is at fault; but they will feel more kindly to a source of supply that has dealt squarely with them in this respect, once normal buying conditions have been re-established. It will help to tell them what deliveries can be expected now, and when reordering.

Stores have gained considerable consumer experience. Consumers have acquired new buying habits. There are many new faces at the higher priced counters. Some readjustments must be expected after the war. In fact there are noticeable changes already now. Formerly low priced counters are catching up with the wants of their regular customers and supply what has been missing in an attempt to retain them or make them return. The question, to which buyers for the higher priced counters must find an answer early, is whether they shall let this new trade go, or try to accommodate it by giving it the type of merchandise that these new customers will find when returning to their pre-war sources. It is not only the buyer who must make this decision but also the manufacturer. The former policy of earmarking certain price-grades for certain types of outlets may need re-examination. The decision will not be an easy one for either side.

What is to become of the numerous brands of perfumes which have reached counters to compensate for shortages of the leading brands? Will they remain in the running or be wiped off the slate by the returning competition of the better advertised articles? Several large stores have begun to back these articles, making them virtually house-brands and it is not impossible that these perfumes may take the place of the minor French lines that were imported in pre-war days.

And—talking of labels—will Paris regain its position in the high-priced perfumes?

Cosmetic Distribution Arguments

It has been no secret that many manufacturers have taken and are taking advantage of the present sellers' market to clean up some of the bad spots in their distribution systems. When you can sell all you can produce, you can take certain liberties with your dealer set-up that you couldn't or wouldn't take during "normal" times. The cleaning up has varied from actual closing out of certain marginal and non-profitable accounts to the removal of demonstrators from other accounts. Not that this doesn't go on to a certain extent all the time, but it takes conditions such as those which have existed for over a year now to bring these things out in profusion and in abandon.

On the other hand, there are manufacturers who have taken pride in the fact that they have not closed out a single account but have rationed all to the same extent so that each could still continue to carry these lines.

Now there is plenty of room for argument and emotion in a situation of this kind but it is our contention that the only honest emotion in the discussion comes from the retailers affected. Whatever course the manufacturer may have decided to take, the one certain fact is that he determined it upon purely realistic grounds. One does one thing because he feels that in the long run he will profit best by doing it while the other does exactly the opposite but for the same reason. Today both sell all they can produce and only tomorrow will tell which one backed the wrong horse. In the meantime, we propose that the crocodile tears be dried, for in the world today there is ample reason for genuine weeping.

Paperboard Control

The announcement that the WPB assumes complete control over the distribution of container board after April 1, plus the assignment of rating orders on fibre shipping containers were expected moves which now make for effective controls over this extremely critical material. Rating orders on folding boxes and perhaps on set-up boxes are expected to follow to complete this phase of paper container control.

WPB had formerly required a reserve of 25 per cent of each mill's container board production. The new order in effect makes for a 100 per cent reserve for under it WPB may direct mills to produce specified types of board and ship it to specified persons, and all users of such board (who use more than two and a half tons per quarter) must obtain authorization from WPB before accepting delivery. Authorization will be issued on a quarterly basis.

Preference rating order P-146 on fibre shipping containers assigns an AA-2X rating to drugs, medicinals and biologicals, and AA-5 to cosmetics, dentifrices, shaving creams and soaps. A rating order following this same general pattern is expected in folding boxes.

WIDE RANGE FLOWABILITY

A VARIETY OF VISCOSITY TYPES TO FIT EVERY JOB

In the preparation of a product, you have undoubtedly often wished for a water soluble colloid available in several different viscosities. Perhaps you wanted a solution much thicker—or considerably thinner—in order to obtain the specific results desired.

To meet your most exacting needs, we have designed Methocel in a wide variety of viscosity types. Selection of the most suitable type is dependent, of course, on results required and manufacturing limitations. Only when the right viscosity is used are maximum economy and efficiency achieved.

This wide-range flowability greatly expands the additional usefulness of Methocel in your operations—and, at the same time, promotes efficiency of application.

METHOCEL

THE ECONOMICAL, WATER SOLUBLE THICKENER

Methocel is a valuable addition to many cosmetic products requiring a thickener, protective colloid or stabilizer. For thickening purposes, a specially designed Methocel viscosity type is available. High viscosities are, naturally, generally recommended.

In protective hand creams and similar products, Methocel has several important functions. Emulsified forms of the product use Methocel as an emulsion stabilizer. In addition, Methocel serves as a protective film upon drying since it is resistant to both oils and organic solvents. By using low viscosity types here, desired amounts of solids are deposited.

Before adopting a specific Methocel type, we urge you to refer your problems to the Technical Service and Development Division.

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New York • Boston • Philadelphia • Washington • Cleveland • Detroit
Chicago • St. Louis • Houston • San Francisco • Los Angeles • Seattle

METHOCEL

Among the many Dow Products serving the Cosmetic Industry are: Synthetic Aromatics, Dowicides, Propylene Glycol and Paradow.

Dow announces the opening of a Detroit office to serve this important industrial area

DOW

CHEMICALS INDISPENSABLE
TO INDUSTRY AND VICTORY

NEWS

Associations

War Effort Keynotes Drug Dinner

An impressive panel of speakers addressed the 19th annual dinner of the Drug Chemical and Allied Trades Section of the New York Board of Trade held at the Waldorf-Astoria, New York, Thursday, March 9. The speakers included: Major General William N. Porter, chief, Chemical Warfare Service; Major General George F. Lull, Deputy Surgeon General, U. S. Army; Rear Admiral H. W. Smith, M.C., Surgeon-General's Office, U. S. Navy; Surgeon General Thomas Parran, U. S. Public Health Service; Major General Clifford L. Corbin, Director, Procurement Division, Office of Quartermaster General; and Rear Admiral Kent C. Melhorn, M.C., U. S. Navy, Chief of Materiel Division, Bureau of Medicine and Surgery.

E. T. T. WILLIAMS

The program was arranged by John J. Toohy, chairman of the program committee, and E. T. T. Williams, chairman of the section, acted as toastmaster. Each year the dinner rolls up a new attendance record. This year there were more than 2,200 people present.

Drug & Chemical Club Elects

A. J. Smith, Zweig, Smith & Co., was elected president of the Drug & Chemical Club at its annual meeting February 17. Other officers elected were: vice-president, S. B. Penick, Jr., S. B. Penick & Co.; treasurer, Floyd N. Dull; secretary, V. E. Williams, Monsanto Chemical Co.

T. R. Farrell, DRUG AND COSMETIC INDUSTRY, and H. L. Wayne were re-elected directors. New directors are M. N. De Noyelles, Chas. Pfizer & Co., J. P. Remensnyder, Heyden Chemical Corp., W. A. Riordan and A. H. Witthohm.

T. G. A. Convention Committee Appointed

L. R. Root, chairman of the convention committee of the Toilet Goods Association, has announced the appointment of the following committee to serve with him in conjunction with the plans for the annual convention, to be held at the Waldorf-Astoria Hotel, New York, on May 18 and 19: A. C. Burgund, Carr-Lowrey Glass Co.; Charles Fischbeck, P. R. Dreyer, Inc.; P. E. Haebler, Goldschmidt Chemical Corp.; W. E. Klaas Brass Goods Mfg. Co.; M. Lemmermeyer, Aromatic Products, Inc.; M. F. Martin, U. S. Industrial Chemicals, Inc.; W. P. Murray, Continental Can Co.; Karl Voss, Karl Voss Corp.; J. Blaine Walker, Hazel-Atlas Glass Co.

There will be no social activities connected with the convention this year.

Chemical Salesmen Hold Fight Night

The Salesmen's Association of the American Chemical Industry held a Fight Night at the Downtown Athletic Club, New York, February 24. A very successful evening was arranged by Bob Fisher, chairman of the entertainment committee.

McKeen Speaks on Penicillin

John E. McKeen, superintendent of Chas. Pfizer & Co., Inc., was the speaker at the March meeting of the Chemistry Teacher's Club of New York, held March 17 in the Physics Lecture Room of the Hewitt Building of Cooper Union, New York. Mr. McKeen's subject was "The Production and Use of Penicillin."

National Chain Stores to French Lick

The National Association of Chain Drug Stores will hold its 1944 convention at French Lick Springs, Indiana, Sunday, Monday and Tuesday, June 4, 5 and 6.

N.W.D.A. Spring Meeting

The mid-year meeting of the National Wholesale Druggists' Association will be held this year April 19 and 20 at the Palmer House, Chicago. The program is now being arranged by E. S. Retter, chairman of the business program committee. The meeting will open with a session for all in attendance on Wednesday morning, April 19, at 9.30. It will be followed by a joint luncheon which will be addressed by a special speaker. In the afternoon there will be a second general session followed by a cocktail party and reception.

Thursday morning the program for the third open session will be in charge of J. J. Toohy, chairman of the N.W.D.A. manufacturers' committee. Following another joint luncheon which will be addressed by an outstanding speaker, the mid-year meeting will adjourn.

Companies

Simon Retires from Heyden

George Simon, who has been identified with Heyden Chemical Corporation since its beginning and who has served Heyden and its predecessors as vice-president and treasurer, is retiring

GEORGE SIMON

J. P. REMENSNYDER

April 1. Mr. Simon's principal responsibility over the years has been the direction of Heyden's sales policies.

Bernard R. Armour, president of Heyden, states that "In this (direction of sales policies) he has made an outstanding record. Mr. Simon is one of the persons primarily responsible for the fine reputation which Heyden enjoys in the chemical industry. I am sure that the stockholders join with the Board of Directors and myself in extending to Mr. Simon our grateful appreciation for his distinguished service to Heyden and our best wishes for the peaceful pleasures to which his years entitle him. Mr. Simon has indicated his willingness to continue as a member of the Board of Directors."

John P. Remensnyder, assistant vice-president of Heyden, will take over the duties of Mr. Simon. Mr. Remensnyder has been working closely with Mr. Simon as his assistant for a number of years.

Pond's Names Foreign Sales Director

Pond's Extract Co. and Pond's Extract Co. International, Ltd., have created a new post—director of foreign sales, American division. This will be filled for both companies by Peter P. Isaza, formerly with the Pepsodent Co.

Mr. Isaza will direct advertising, promotional and sales efforts for Pond's products throughout the Western Hemisphere, with the exception of the continental United States and Canada. In addition, he will direct the manufacture of Pond's products in those territories where subsidiary plants are located.

Mr. Isaza is a native of Colombia who has spent many years in this country and is now a United States citizen. For seven years previous to his association with Pepsodent, he engaged in export work with E. R. Squibb & Sons.

Col. Barrow Joins Searle

Lt. Col. L. L. Barrow, an officer in the Regular Army Medical Corps for the past eleven years, has joined the staff of F. D. Searle & Co., Chicago, as assistant medical director.

DR. L. L. BARROW

Roden Heads Amer. Home Foods

Henry W. Roden, president of Harold H. Clapp, Inc., has been elected a vice-president of American Home Products Corp. in charge of a new food division. Three food companies — Harold H. Clapp, Inc., G. Washington Coffee Refining Co. and P. Duff & Sons, Inc.— will be included in the new division. The Clapp company was acquired by American Home Products Corp. in 1939; the G. Washington company was acquired in May 1943; and negotiations for the acquisition by the corporation of P. Duff & Sons were completed in January and have just been consummated with an exchange of capital shares.

Formation of a new food company, American Home Foods, Inc., with a charter granted by the State of New York, has also been announced. It may become the corporate name and administrative body of the new food division at some future date. Officers of the new food company are: Mr. Roden, President; R. B. Thomas, Clarence Mark, William H. Duff, II, and Walter F. Silbersack, vice-presidents; and Herbert E. Carnes, secretary and treasurer. Offices will be located at 22 East 40 St., New York.

American Home Foreign Division

Formation of a new foreign division of American Home Products Corp. and election of Donald C. Townley as a vice-president in charge of the division has been announced by Alvin G. Brush, chairman of the corporation's board of directors. The move consolidates all foreign companies and export business into an operating division on a par with the five other operating divisions of the corporation. Approximately one-sixth of the corporation's business is in its foreign operations.

Present plans include setting up overseas operating departments, under the supervision of the foreign division, which will correspond to the five domestic operating divisions of the corporation. These are: pharmaceutical, biological, nutritional, and vitamin; household products; food, cosmetic; and packaged drugs.

Higginbotham Elected Vice-President

The board of directors of Primrose House, Inc., New York, elected E. G. Higginbotham vice-president in charge of sales, at the last meeting. Mr. Higginbotham has been with Primrose House since 1940 at which time he joined the organization as sales manager.

PETER P. ISAZA

HENRY W. RODEN

E. G. HIGGINBOTHAM

Dow Prophylene Glycol Booklet

The Dow Chemical Co. has published an interesting booklet containing technical information about Propylene Glycol, N.F., a new product which has been developed by the company. The product is said to have excellent qualities as a flavoring vehicle, as a plasticizer and chemical intermediate for food processing, and it is also used in cosmetic and pharmaceutical manufacture. Copies of the booklet can be secured by writing The Dow Chemical Co., Midland, Mich.

Dr. Gotham to Return to Cosmetics

Dr. M. Gotham, chemical engineer at a government ordnance plant manufacturing explosives which has recently been closed, has returned to New York and is considering various connections in the cosmetic industry. For eight years Dr. Gotham was director of Ene Laboratories, Inc., manufacturer of private label cosmetics, and then for two years before joining the government headed his own company, M. Gotham, manufacturing chemists.

Jones—Ingram & Bell Director

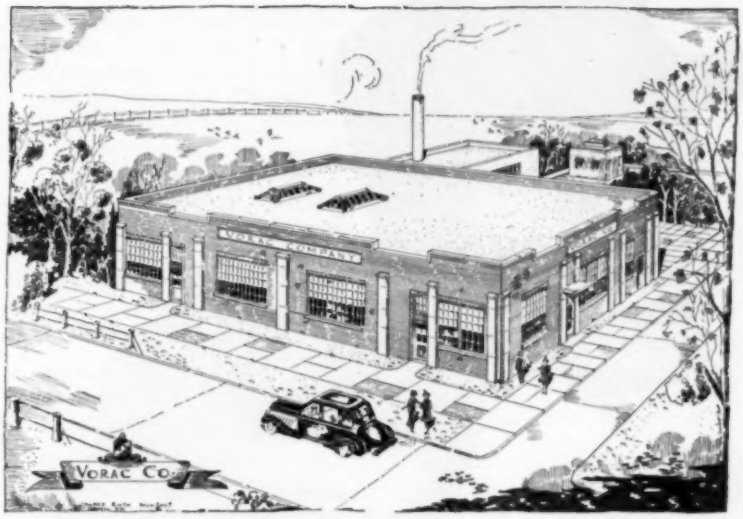
W. F. Jones, Phm.B., superintendent of the pharmaceutical division of Ingram & Bell, Toronto, has been appointed a director of the company, filling the vacancy caused by the death of the late W. J. Ingram. Mr. Jones is a graduate of the Ontario College of

W. F. JONES

Pharmacy, class of 1935. He joined the staff of the Ingram & Bell control laboratory in 1936, later becoming chief chemist, and more recently he has been superintendent of the pharmaceutical division.

Margaret Longcope Buys Ina de Cris

The cosmetic firm of Ina de Cris has been purchased by Margaret Keating Longcope, advertising and merchandising consultant. Mrs. Longcope will direct promotion, advertising, selling and merchandising from the company's new offices at 654 Madison Ave., New York.



New plant of Vorac Co. at 145 Meadow Road, Rutherford, N. J.—20,000 square feet specializing in nail polish for the trade.

Ann Haviland in New Quarters

Ann Haviland announces the opening of new showrooms and offices at 1 West 52 St., New York. Greatly increased business and growing interest in Ann Haviland creations has resulted in expansion of the plant, which is now equipped for added production.

Jack Slais Rejoins Ungerer

Jack Slais has resumed his former position with Ungerer & Co., New York. He will cover the St. Louis and Southern territory and will make his headquarters at the Ungerer office, 325 West Huron St., Chicago.

Anne Wright Joins Schiaparelli

Anne Wright has been appointed vice-president and general manager of Parfums Schiaparelli, New York. Miss Wright was formerly connected with Germain Monteil Cosmetiques Corp., New York, as sales manager for more than seven years.

Hart—Pepsodent Sales Director

Malcolm Hart has been appointed to the newly created position of director of sales of the Pepsodent Co. He has been with the company for eight years and had been assistant sales manager and later sales manager.

Phil Kalech who started with the Colgate-Palmolive-Peet Co. as a salesman twenty-four years ago and who was central division manager for the company before joining the Pepsodent Co. has been advanced to sales manager, succeeding Mr. Hart.

Howard Round has been appointed Pepsodent Eastern sales manager. He will make his headquarters at the company's New York office in the Chrysler Building.

Paul Mundie becomes western sales manager. Offices are being opened in the Title Guaranty Building in Los Angeles and Mr. Mundie is organizing a complete Western sales force.

Le Sonier in Larger Quarters

Le Sonier, Inc., has moved to more spacious quarters in the same building, 347 Fifth Ave., New York. The firm now occupies a seven-room suite of offices on the sixteenth floor, with a new and attractively decorated showroom.

Commercial Solvents Adds Scientists

Darwin T. Aldrich, John W. Brodhacker and Carlos L. Gutzeit have joined the research department of Commercial Solvents Corp., Terre Haute, Indiana.

Mr. Aldrich was formerly instructor and assistant pharmacist at Purdue University School of Pharmacy and received his M.S. in January 1944. His new position will be in the bacteriological division.

Mr. Brodhacker is a recent graduate of the Missouri School of Mines in

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They do their best when they look their best. War-busy women know it. Statistics prove it. Hazel-Atlas Opal Jars play a big part in packaging morale.

HAZEL-ATLAS GLASS COMPANY

WHEELING, WEST VIRGINIA

chemical engineering and has been assigned to the engineering group.

Dr. Gutzeit was formerly with Best Foods, Inc. He has also served as research chemist for Standard Oil Development Co. and Shell Oil Co.

Marvin Thompson Heads Warner

Marvin R. Thompson has assumed the presidency of William R. Warner & Co., Inc., New York and St. Louis, succeeding G. A. Pfeiffer who becomes chairman of the board. Dr. Thompson,

MARVIN THOMPSON

who has been with William R. Warner & Co., Inc., for the last five years, was formerly vice-president of the company and a director of the Warner Institute for Therapeutic Research.

Rosal Laboratories Formed

Rosal Laboratories, Ltd., has been established with laboratory in Miami and offices at 491 Bourse Building, Philadelphia, to market perfume through drug and department stores. The company's first perfume is called Shai. It is sold in four sizes with the ounce retailing for $10. Other fragrances are being prepared. E. C. Carroll is in charge of sales.

Amend Drug & Chemical Co. Formed

Amend Drug & Chemical Co., a new company to deal in and manufacture drugs, fine chemicals and specialties, headed by E. Paul Amend, has been organized by five officials of the drug, chemical and apparatus supply house of Eimer & Amend.

The new company will occupy two floors at 117 East 24 St., New York, and will prepare special formulae and mixtures in a laboratory now under construction on the first floor. Manufacturing activities will be conducted there and at a plant in Lodi, N. J.

The officers of the new chemical company were all formerly connected with Eimer & Amend for periods ranging from thirteen to sixty years. E. Paul Amend, president of the new concern, was assistant secretary; Edward B. Amend, vice-president was vice-president of the older company; William J. Grill is secretary and treasurer; and G. Robert Bohlin and William C. Schroeder are vice-presidents.

Clark Named Sterling V.P.

Stanley I. Clark has been elected vice-president of the Bayer Co., Inc., sub-

STANLEY I. CLARKE

sidiary of Sterling Drug Inc. Mr. Clark became associated with Sterling a year ago as assistant to one of the vice-presidents. For four years previous to that he had been in charge of drug trade merchandising for This Week magazine.

Nadair Parfums Organized

Nadair Parfums, Inc. has been organized in Los Angeles county with a capital of $10,000. The directors of the new company are: Sidney Prager, of Beverly Hills, Monroe B. Lukather of Van Nuys, and E. H. Southwell of Los Angeles.

Sonneborn Retirement Plan

An employees' retirement plan providing both monthly pension payments and death benefits without cost to the individual participant has been instituted by L. Sonneborn Sons, Inc. it has been announced by Dr. Ferdinand Sonneborn, president.

Supplementing the old age benefits of Federal Security, the Sonneborn plan is designed to provide retirement incomes commensurate with the normal living standards of men in income brackets above the $3,000 Social Security limit. Its benefits apply to all employees of this class between the ages of 31½ and 60½ who had been with the company 30 months or more on January 29, 1943, the date on which the plan retroactively takes effect. Eligible employees in the armed forces will be enrolled in the plan on the January 28 following their return to active service with the company.

Col. Harrop Back at Upjohn

Lt. Col. Leslie D. Harrop, who for the past year has served as liaison officer between the Surgeon General's office and the War Production Board in matters pertaining to health supplies has been released from the army. Colonel Harrop has resumed his former position as general council of the Upjohn Co., Kalamazoo, and as general counsel of the American Drug Manufacturers Association.

Ladewig Joins Bristol-Myers

Edward G. Ladewig has joined Bristol-Myers Co., New York, as assistant to Walter L. Bomer, vice-president in charge of export. Mr. Ladewig is former assistant export sales manager of the Gillette Safety Razor Co., Boston. Educated at the University of California, Boston University and Massachusetts Institute of Technology, he has spent practically his entire time since then in export work and has traveled extensively in Central and South America, Europe and the Far East. He lived in South America for seven years.

Weber Named Lueders Official

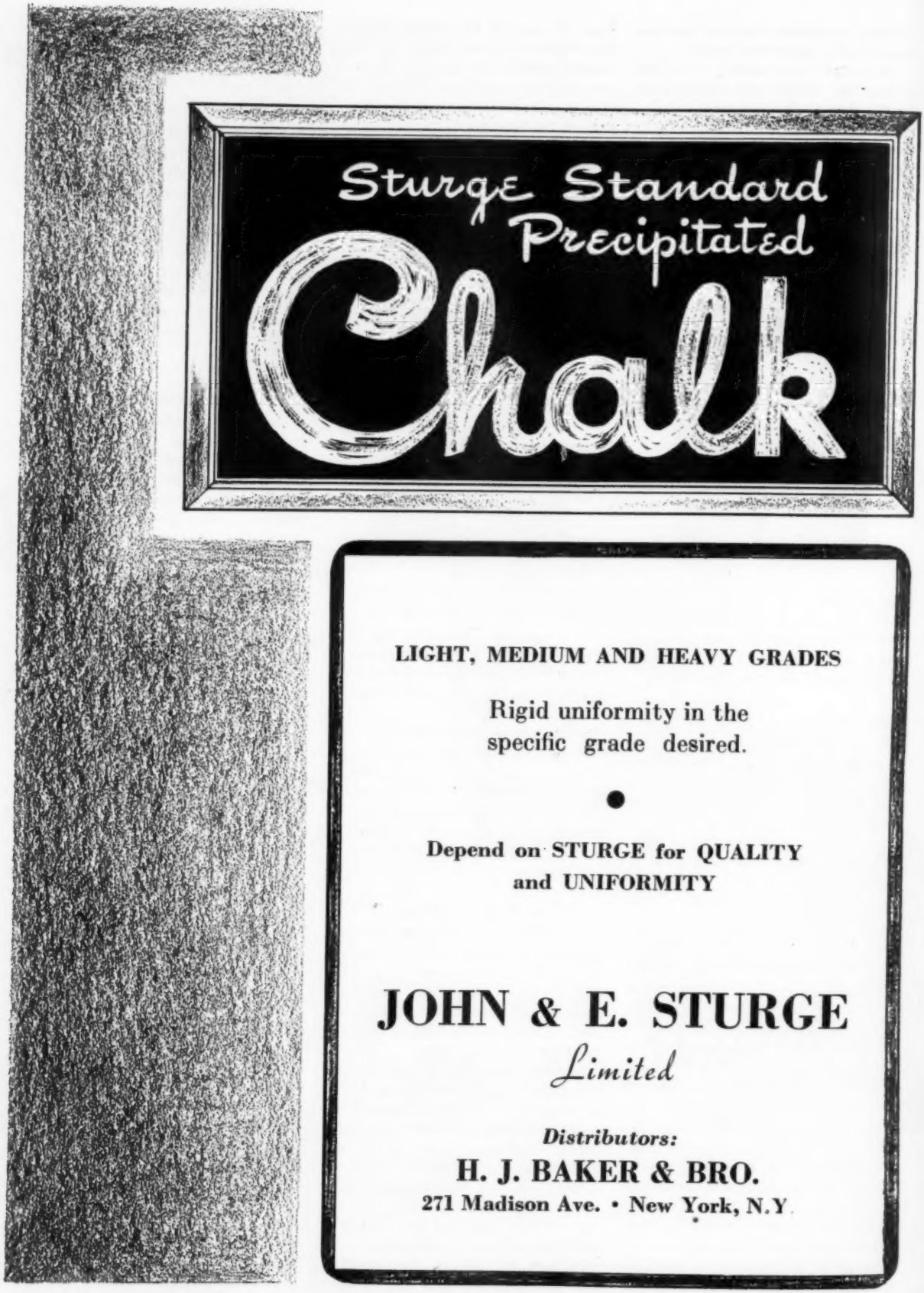
Frederick J. Lueders, president of George Lueders & Co., has announced that at its last meeting George F. Weber was elected assistant secretary and a director of the company.

National Wax Now International Wax

International Wax Refining Co. is the new name which will be adopted by National Wax Refining Co., Brooklyn, April 15, 1944. The change is being made because the company plans to enlarge its scope of operations in the immediate future and in the post-war period. The management of the company remains the same.

Marie Pierson Joins Luxor

Marie Pierson has joined Luxor, Ltd., Chicago, as fashion coordinator. Miss Pierson was formerly assistant buyer of the cosmetic and toilet goods department of Carson, Pirie, Scott & Co., Chicago. She is a graduate of Kansas State Teachers College and has had considerable experience in the beauty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Depend on STURGE for QUALITY
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culture field. She was at one time associated with Elmo Cosmetics and with Time and Fortune publications.

Standard Synthetics Fire Loss

Standard Synthetics, Inc., sustained a loss through fire in its new premises at 30 West 26 St., New York, February 11, when water poured in from the floor above. The newly-furnished offices and parts of the warehouse were flooded and work was interrupted for two days. Fortunately, the loss of essential oils was not very great.

Atlas Powder Expanding Output

As soon as WPB authorization for the construction of a new plant is obtained the Atlas Powder Co., Wilmington, Del., will expand its polyhydric alcohol activities. The new plant, plans for which are completed, will more than double Atlas' production of sorbitol and mannitol.

The company's new central research laboratory, the first unit of the laboratory, is now practically completed and ready for operation.

People

Crary Retires from Continental Can

Arthur V. Crary has retired as a vice-president of Continental Can Co., Inc. Mr. Crary had been active in the can manufacturing industry for forty-nine years, having joined the sales department of Norton Brothers of Chicago in 1895. He was later a sales executive of the American Can Co. and a vice-president of the National Can Corp. of Detroit. When the latter company was acquired by Continental in 1923, Mr. Crary continued under the new ownership and became vice-president of Continental in 1936.

Rowe Retires from Heyden

Arthur H. Rowe, associated with Heyden Chemical Corp., New York, for close to forty years as salesman, has retired from active service to his farm in Monroe, N. Y. A luncheon in his honor,

ARTHUR H. ROWE

attended by the officers and directors of Heyden and by his old associates, was given at the Manhattan Club on February 23.

Dinner to Clyde C. Marshall

Clyde C. Marshall was given a dinner by a group of his Chicago friends early in February. The occasion was Mr. Marshall's departure for the Pacific Coast where he will direct sales for Petrogalar and S. M. A. Corp. in that territory. Mr. Marshall is chief executive officer of Wyeth, Inc., as well as president of the Petrogalar Co. and the S. M. A. Corp., and also vice-president of Wyeth, Inc.

The dinner was attended by Henry Bruening, Charles E. Carson, Chris Christensen, A. C. Denny, Edmund L. Drach, Charles L. Drum, Joseph A. Gauer, F. Dean Hildebrandt, Frank Hoffman, Robert L. Holland, Ralph C. Jennings, Dr. David Klein, Robert Little, William Marshall, Charles R. O'Malley, Lewis J. O'Shea, C. E. Pfister, James Pringle, M. M. Ricketts, John A. A. Scott, Thomas B. Singleton, Dr. Hans Stratmann, Floyd Thayer, J. H. Trienans, Zollie Frank, Norman Grimm, Walter Jelly, Joseph P. Sullivan, Lee Klemmer, M. C. Meigs, R. W. Bjork, E. E. Brand.

A scroll was presented to Mr. Marshall signed by those present at the dinner and many of his other friends who were unable to attend.

John L. Smith Becomes a Grandfather

A son, John Ross, was born to Lt. and Mrs. Francis Monroe Campbell on March 4. Mrs. Campbell is the daughter of John L. Smith, vice-president of Chas. Pfizer & Co., New York.

Jacqueline Montgomery Weds

Mr. and Mrs. John H. Montgomery of Montclair, N. J., have announced the marriage, February 2, of their daughter, Jacqueline, to Ensign Douglas Halling West, U.S.N.R., son of Mrs. Stoker West of Montclair and Greensboro, N. C. and Mr. Charles H. West of Washington, D. C. The bride's father, John H. Montgomery, is secretary of Fritzsche Brothers, Inc.

Virginia Green Weds

Mr. and Mrs. Francis William Green of Garden City, N. Y. have announced the marriage of their daughter, Virginia, to Lieutenant John Alden Paul, U.S.N.R. The wedding took place February 8 in St. Paul's Church, Jacksonville, Fla. Mr. Green is associated with the National Aniline & Chemical Co.

Howell Heads L. I. City CDVO

Robert F. Howell, secretary of the Robert Gair Co., Inc., New York, has been appointed chairman of the Long Island City branch of the Civilian Defense Office, located at 45-22 Greenpoint Ave., Long Island City, by Mrs. John Adikes, Queens County chairman of C.D.V.O.

Garlick Returns from Vacation

T. H. Garlick, sales manager of Seeley & Co., Inc., returned to his desk the middle of March after his annual winter vacation spent at the Lake Placid Club, Lake Placid, N. Y.

Karoff in the Navy

Arthur Karoff, son of Robert B. Karoff, and secretary of Robert B. Karoff Creations, Inc., New York, has joined the Navy, and is stationed at Sampson, New York. Mr. Karoff is being trained as a pharmacist's mate.

SYNTHETIC BEESWAX

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WHITE BLEACHED
LIGHT REFINED YELLOW
REFINED YELLOW

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SYNTHETIC JAPAN WAX

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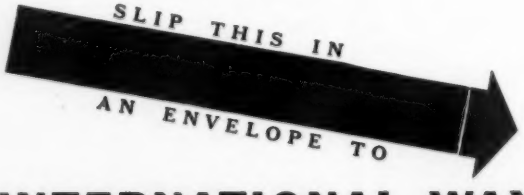

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Charles Homan's Daughter Weds

Mr. and Mrs. Charles O. Homan of Rockville Centre, N. Y., have announced the marriage of their daughter, Margaret, to Ensign Warren G. Kreter, USNR, son of Mr. and Mrs. Charles F. Kreter, also of Rockville Centre. The

CHARLES O. HOMAN

ceremony was performed February 27 at St. Anthony's Roman Catholic Church, that city, and was followed by a reception at the Garden City Hotel. Mrs. Daniel Haff was matron of honor and Richard Kreter of the Marine Corps was best man.

Mrs. Kreter, who is the daughter of Charles O. Homan, sales manager of Dodge & Olcott Co., was graduated from La Salle Junior College and the Katharine Gibbs School. Her husband is a graduate of Dartmouth College.

Financial

Evans Chemetics Stock Change

Evans Chemetics, Inc. has reclassified its capital stock from 4,000 shares to 11,380 shares.

Armstrong Cork Net Up

Armstrong Cork Co. reports for 1943 net earnings of $3,667,026 against $2,964,384 in 1942. Sales for the year amounted to $111,646,983 and were the highest in the company's eighty-four years. This was largely due to the fact that the munitions division tripled its output with sales aggregating $36,053,840.

Commercial Solvents Net Lower

Commercial Solvents Corp. reports for 1943 a net income of $2,899,180, or $1.10 a share, against $3,060,033, or $1.16 a share in 1942. Sales for the year were $39,215,882, compared with $36,934,309 during 1942.

Demand for the company's products exceeded its productive capacity. A new division was organized to handle sales of insecticides, fumigants, veterinary remedies, vitamin supplements for feedstuffs and allied products. Increased production of riboflavin enabled the company to develop a new type of animal feed containing it and to expand its sale as a constituent of food and pharmaceuticals.

At the request of the Government a plant for the production of penicillin was constructed in Terre Haute with the company's own funds at a cost of $1,750,000, of which $1,021,000 is shown in the accounts for 1943.

The plant of the Thermatomic Carbon Co. operated at capacity during 1943, and at Government request additional production units were constructed. Commercial Molasses Corp acted principally as agent for the Defense Supplies Corp. in handling its Cuban molasses purchases. The alcohol plant at Westwego, La., has been closed since May because of the molasses shortage.

Container Corp. Earns More

Container Corp. of America and subsidiaries report for 1943 a net income of $2,884,054, equal to $3.69 a share. This compares with a net of $2,401,748, or $3.07 a share in 1942. The 1943 net profit was figured before an appropriation of $700,000 was made for war and post-war reserve.

Continental Can Net Steady

Continental Can Co., Inc., and wholly owned subsidiaries report for the year ended December 31, 1943, consolidated net earnings of $5,169,962 after provision for income and excess profits taxes, equivalent to $1.81 a share on the common stock. This compares with $5,052,955, or $1.77 a share, earned in 1942.

Total net saels and operating revenues for 1943 were $125,613,665, as compared with $123,119,130 in 1942. Approximately $25,000,000 or 20 per cent of 1943 sales was represented by war products.

Hazel-Atlas Earns More

Hazel-Atlas Glass Co and subsidiaries report for 1943 a net income, after $8,777,400 Federal taxes, of $2,773,995, or $6.38 a share, compared with $2,471,604, or $5.69 a share, after $6,440,530 tax deduction in 1942. Net sales for the year were $55,393,636, compared with $46,640,620.

Kimble Glass Moves in Chicago

The Chicago office of Kimble Glass Co. was moved March 1 to 20 North Wacker Drive, the Civic Opera Building. The telephone number remains State 6090. Bruce Puffer is manager of the Chicago office.

Monsanto Sales Up, Profits Down

Monsanto Chemical Co. reports that its net sales for 1943 increased approximately 18 per cent in 1943 to $81,697,059. In spite of this, the net earnings for common stock amounted to $4,425,769, or $3.56 a share, compared with $4,650,569, or $3.75 a share in 1942.

The company's statement excluded a profit of $1,048,858 from the sale of products manufactured in government-owned plants operated by Monsanto, this profit having been voluntarily returned to the government.

Reed Drug Earnings Steady

Reed Drug Co. reports for 1943 a net profit of $91,442. This is equivalent to 59 cents a share and compares with a net of $96,246, or 64 cents a share in 1942.

Sharp & Dohme Earns More

Sharp & Dohme, Inc. reports for 1943 a net profit of $1,874,497, equivalent to $1.38 a share after taxes of $3,287,256 and provision of $225,000 for contingencies. This compares with a net of $1,823,788, or $1.31 a share, in 1942, when taxes amounted to $1,368,003, and $425,000 was deducted for contingencies.

For the December quarter the net income was $501,835, equal to 39 cents a share and compared with $412,023, or 27 cents a share in the same quarter of 1942.

McK & R Earns More

Consolidated net profit of McKesson & Robbins, Inc. for the six months ended December 31, 1943, was $2,777,221 after provision of $6,612,513 for Federal taxes, a charge of $665,668 representing net premium on debentures retired during the period, and an addition of $250,000 to the reserve for contingencies. This is equivalent to $1.51 a share and compares with a consolidated net profit, for the first half of 1942, of $2,567,384 after interest and provision of $4,510,436 for federal taxes adjusted to give effect to post-war credit which became available later in the company's fiscal year through debt retirement.

Consolidated net profit for the three months ended December 31, 1943, was $1,510,777, after interest and after provision of $3,586,732 for Federal taxes, which reflected a post-war credit of

$328,437. These earnings were after deducting the $250,000 addition to the reserve for contingencies, which made a total of $2,000,000 in this reserve as at December 31, 1943.

During the quarter the company's refinancing program was completed. The company's entire funded indebtedness has been retired and it has no bank loans outstanding. Its capitalization now consists of 150,000 shares $4 cumulative preferred stock and 1,685,901 shares of common stock.

Squibb Earnings Higher

E. R. Squibb & Sons reports for the six months ended with December 1943 a net profit of $1,266,463, against $1,052,224 earned in the last half of 1942. Federal taxes for the 1943 period were $2,774,047 as compared with $1,536,058 for the 1942 period.

Sterling Drug Net Higher

Sterling Drug Inc. reports for the year ended December 31, 1943 net earnings of $7,806,313 after provision for federal and foreign income and excess profits taxes and for reserve for contingencies. This is equivalent to $4.45 a share and compares with earnings in 1942 of $7,086,354, or $4.04 a share.

Sales during the year amounted to $59,394,478, an increase of 11 per cent over the $53,447,584 in 1942.

Vick Earnings Higher

Vick Chemical Co. reports for the six months to December 31 a net profit of $1,867,795 or $2.75 a share against $1,690,126 or $2.24 a share in 1942.

Obituaries

Leo Hendrik Baekeland

Dr. Leo Hendrik Baekeland, inventor of bakelite, died February 23 at Craig House, a sanitarium in Beacon, N. Y., where he had been a patient for several months. He was eighty years old.

He was born in Ghent, Belgium, and was educated at the University of Ghent where he taught for several years. In 1889 he came to the United States on a traveling scholarship, and liked it so much that he remained.

Dr. Baekeland produced Velox photographic paper. He formed the Nepera Chemical Co. to manufacture it in 1893 and later sold Velox to Eastman Kodak Co. It was while he was working to produce an artificial varnish that he developed the material which has since been known as Bakelite. His discovery was announced in 1906, and from 1910 to his retirement in 1939 he headed the Bakelite Corp.

He was a former president of the American Chemical Society, the American Institute of Chemical Engineers and the American Electrochemical Society. He had been awarded the W. H. Nichols Medal, the Willard Gibbs Medal, the Chandler Medal, the William Perkin Medal, the John Scott Medal and the Pioneer Trophy of the Chemical Foundation.

Mrs. Ralph E. Dorland

Mrs. Edith Green Dorland, wife of Ralph E. Dorland, manager of the New York office of the Dow Chemical Co., died of a paralytic stroke February 19 in Fort Lauderdale, Fla., She was sixty-one.

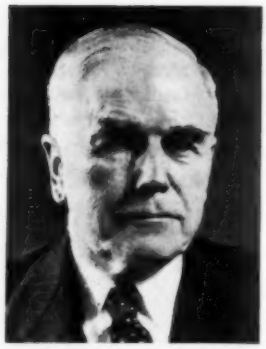
She was born in Ann Arbor, Mich., the daughter of the late Professor Arthur L. Green, dean of chemistry at Purdue University, and Mrs. Fannie Green, now of Pasadena, Calif. Mrs. Dorland was graduated from Purdue in 1902 with a B.S. degree.

Besides her husband and mother, she is survived by four sons: Grant A. Dorland of Lexington, Ky., Wayne E. Dorland of West Orange, N. J., 1st Lt. Jack A., U. S. Army, New York City, and Ralph E. Dorland, Jr., San Carlos, Calif.; two brothers, Harold V. Green of Chicago and Jesse L. Green of Philadelphia, and five grandchildren.

Charles Frederick Michaels

Charles F. Michaels, chairman of the board of McKesson & Robbins, Inc., died February 20 in a San Francisco hospital after a two weeks' illness. He was seventy-four years old.

Mr. Michaels was born in San Francisco and on his sixteenth birthday entered the wholesale drug firm of Langley-Michaels Co. which had been founded in San Francisco in the early days of the Gold Rush. Starting in the operating department, he became treasurer in 1897, vice-president in 1907 and president in 1920. When the company was incorporated into McKesson & Robbins in 1929, he was made a director and a divisional vice-president of the latter organization, subsequently becoming successively executive vice-president and president. When the company was reorganized July 1, 1941, he was elected chairman of the board.



CHARLES F. MICHAELS

Mr. Michaels served as president of the National Wholesale Druggists' Association in 1927 and was president of the San Francisco Chamber of Commerce in 1914. He was a director both of that chamber and of the Pacific Lighting Corp. of San Francisco, and had been president of the Menlo School and Junior College since 1925. He was a former treasurer of the Town of Atherton, Calif., where he made his home.

Edwin H. O'Neil

Edwin Henry O'Neill, former president and director of the Ramsdell Co., manufacturer of cosmetics, at 75 Varick St., New York, died at St. Clare's Hospital, New York. He was fifty-six years old.

Mr. O'Neill attended Holy Cross College and was graduated from the New York College of Pharmacy in 1909. He owned a drug store in the old Savoy Plaza Hotel for many years and established the Ramsdell Co. about twenty years ago. He retired in 1942.

Dr. Edgar Sampson

Dr. Edgar Sampson, an executive consultant to Hoffmann-La Roche, Inc., Nutley, N. J., died February 25 at Lenox Hill Hospital, New York. He was sixty-three years old.

Dr. Sampson was graduated from Heidelberg University in Germany in 1904 and soon afterwards became associated with mining interests in this country as a consulting mineralogist. He next was associated with Parke, Davis & Co., Detroit, and later joined Schering & Glatz of which he was an executive vice-president for many years. In 1929 he retired to devote his time to travel and the study of art and music. In 1936 he joined Hoffmann-La Roche, serving in an advisory capacity in the greater New York area.

INDUSTRY'S BOOKS

Modern Medical Counselor, by Hubert O. Swartout, M.D., Dr. P. H., In Collaboration with Sixteen Leading Medical Specialists, 926 pp., Illus., Pacific Press Publishing Association, Mountain View, Calif., $8.50; lea. cl., $10.50.

The medical facts set forth in this volume are drawn from the accumulated knowledge of thousands of physicians and surgeons, laboratory research workers, and scientists. It offers to the public the latest scientific medical knowledge as prepared by a leading doctor of public health in collaboration with a board of skilled physicians who are specialists in particular fields of medicine. Every disease is discussed by a specialist, and the latest and best treatment of medical science is offered for its alleviation. The first sections of the volume are devoted to a simple, yet complete understanding of the human body, its function and care. Practical material on the problems of home building and home making will prove valuable. This volume is not intended to take the place of the family physician, but to enable the layman to co-operate with him intelligently.

Out Of The Test Tube, by Harry N. Holmes, Ph.D., Oberlin College, Fourth Ed., Illus., Emerson Books, Inc., New York, $3.

Out of The Test Tube compresses the fascinating story of chemistry into one exciting volume. In plain words we are told the dramatic story of chemistry's far-reaching influence on modern life—on national defense, our food, our health, our habits, our jobs, our environments, our futures. Beginning with earliest chemical knowledge and the pioneers of the science, the book quickly becomes the engrossing story of the modern laboratory; its importance in industry and other domains today. It will acquaint you with many astonishing facts concerning rubber, radium, yeast, chemical dyes, petroleum, coal, the soil, the air, alcohol, sugar, steel, insects, cellophane, silk, rayon, fats, medicine, various rays, transportation, air-conditioning, glass, nutrition, farming, hormones, aluminum, aviation, bacteriology, solar energy, fertilizers, photosynthesis, etc. Stories from the lives of famous chemists are sprinkled throughout these pages.

Health And Hygiene, by Lloyd Ackerman, Western Reserve University, 895 pp., The Jaques Cattell Press, Lancaster, Penna., $5.

This is a comprehensive study of disease prevention and health promotion, and a very complete and good job at that. Dr. Ackerman points out how, by the proper yardstick of hygienic measures, millions of cases of illness can be prevented each year in our nation; how we can increase our life span and eliminate many physical, mental and social ills. This is a long book, full of information that can be used by everyone. It includes thorough discussions of nutrition, sex, infection, inflammation, immunology, mental attitudes and behavior patterns. The subject matter of this book has been drawn from more than 300 scientific journals. The material has been selected, refined and brought into focus by the author's background to present a graphic picture of the entire field of public health.

Semimicro Qualitative Analysis, by J. F. Flagg and W. R. Line, 140 pp., D. Van Nostrand Co., Inc., New York, $1.50.

In this highly compressed work, serving as a text for a one-semester course, the first half is devoted to theory, the second to procedures. Theoretical matter covers the law of chemical equilibrium and its application to homogeneous systems and heterogeneous processes, as well as oxidation-reduction reactions. The treatment is good, although current acid-base theory is not utilized. A short chapter discusses semimicro technique, and by following procedures as outlined a complete inorganic analysis may be carried out on a sample weighing about 0.1 gram. Procedures cover the customary cations and anions, as well as ferroalloys. Spot tests are not used extensively. The book is extremely easy to read and should be useful to chemists as a review text and freshener.

Modern pH and Chlorine Control, 83 pp., W. A. Taylor & Co., 7300 York Road, Baltimore 4, Md., Free on Request.

This is an 83 page combination handbook and catalog (6th Ed.), of value to everyone interested in control of pH (acidity and alkalinity), chlorine, phosphates in boiler water, and in water analysis. Fifty pages are devoted to (1) a simple, non-technical explanation of the meaning of pH control and the methods for making colorimetric determinations; (2) precautions to be observed; (3) discussion of the application of pH and chlorine control to 31 different fields; (4) a technical discussion of the meaning of pH control. The remaining 33 pages contain descriptions of Taylor Slide Comparators for general pH and chlorine control, determinations of phosphates in boiler water and for analysis of water for nitrites, nitrates, silica, iron, ammonia, etc.

The Chemistry Of Synthetic Substances, by Dr. Emil Dreher, 103 pp., Philosophical Library, New York, $3.

The chemistry of macromolecular organic compounds rapidly developing in science and industry has up till now been considered in existing literature chiefly in the realm of technical application, especially insofar as it concerns the treatment of high molecular substances. By the synthesis of diverse macromolecular compounds of which the synthetic substances so desired today consist, the range of problems of organic chemistry has been essentially extended, while the latter has at the beginning been unable to keep pace in the solution of the underlying theoretical questions. Such knowledge is undoubtedly beneficial for synthesis and decisions of technical application. Absorption in such fundamental, organic-chemical questions is therefore indispensable for the expert in the production and manufacture of synthetic substances, and will be of great value to the student and researcher.

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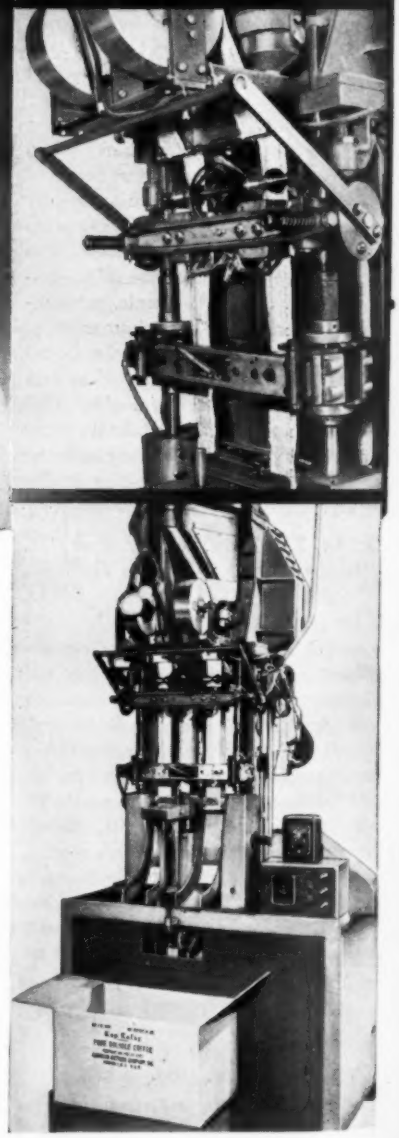

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PRODUCTION FORUM

By FRANCIS CHILSON
Production Engineer

TRADE UNIONS

For many years this observer was bitterly opposed to trade unions in every form. This hatred of unions was inculcated years ago when I was myself a member of a trade union,—The International Brotherhood of Boilermakers, Shipbuilders, etc. I don't remember the exact title. The experience was gained during my college days when I used to work in a shipyard. The "Brotherhood" was an A. F. of L. union and a first class racket insofar as that particular local was concerned. There was no alternative to joining the union since the shipyard was a closed shop. You joined or else. The first thing that struck me as repugnant and wholly un-American was the rigid caste system maintained by the A. F. of L. This is another way of describing the apprenticeship system by which craft unions strive to control the supply of skilled journeymen. Since I was studying engineering, and as I worked only in the summer and therefore could not become an apprentice, I was rated as a helper. As a helper I was beyond the pale and hence not permitted to handle tools such as riveting guns, chipping hammers and the like about which my curiosity as an engineering student was naturally aroused. I handled them anyway which led to an endless series of rows with the union delegate and a number of first class fist fights. In a craft union a person is in or he is definitely out. If he is too poor to serve an apprenticeship of four years, he must remain a helper for the rest of his life or get out.

I didn't like the loafing, the malingering and the sloppy, careless work, which was not only tolerated but actually fostered by the union. I didn't like the rigid adherence to craft rules under which a machinist couldn't saw a board because that is carpenter's work or a carpenter couldn't handle a stillson wrench because that is the prerogative of a pipefitter. An appalling number of man hours were lost by mechanics of one craft waiting for mechanics of another to show up on the job to do work which they themselves could have done in a few minutes. And always when the mechanic arrived he'd come without his helper and more time would be lost sending for the helper. It was an unfair, outrageous racket and actually contrary to the interests of labor itself in the long run.

Yet, we as employers or managers, deserve exactly what we are getting. We are now paying for the sins of our fathers. Our fathers lacked foresight. In many cases they lacked ordinary decency as any one who has read the history of industrialism can attest. In our dealings with labor today some of us still are anything but fair. We still are not facing the labor problem realistically. We are not trying to understand the labor movement; we are trying to scuttle it. We don't want to understand trade unions; we'd rather fight them. We don't cooperate with labor; we'd rather boss it.

Bossism and unionism are the obverse and reverse of the same counterfeit coin. Both will have to go before there is any lasting union of management and labor. You may think my strictures about the shortsightedness of management are somewhat far fetched. But I've been in a lot of factories where sanitary facilities for factory workers were inadequate and filthy. In some fire hazards were everywhere with inadequate facilities for fighting fire or evacuating workers. I've known of reputable companies which bribed inspectors from the fire department to avoid spending a few thousand dollars to correct fire hazards. In many if not most factories lighting is bad; ventilation is poor and provision for dust control in invariably absent. I've known of reputable manufacturers who bribed union delegates in order to squash complaints. I've known of

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CONTROL OF AIR FOR MODERN INDUSTRY

reputable manufacturers who used bribery to break strikes.

In spite of all the evidence to show that well paid labor means better business "cheap labor" is held by many managements to be a desirable thing. Not long ago I sat in a post war planning conference and heard an otherwise intelligent executive say that his principal reason for wanting to locate the plant in the south was that "we can always get plenty of cheap labor down there." When you hear things like this and when you see the things I've seen, you begin to wonder whether management understands the labor problem—or wants to.

Manpower is the fundamental asset of business. Men create the products that make business and consume them as well. It seems only common sense to say that the first problem of management is to understand labor and labor organizations and to cooperate with them. But management must go more than half way to prove its sincerity and eliminate suspicion. Unless it does, unionism will continue to flourish and the vicious criminal elements in trade unions will continue to grow like noxious weeds.

It is my opinion that craft unions are an anachronism in modern industry. They belong to the middle ages. They should be replaced by company unions of the vertical type. The delegates of each company union should be employees of the respective company. Employers resent almost without exception the intrusion of an outsider as a representative of his own employees. They are right, too. Employees should be represented by one of themselves. Each company union should publish an annual statement of receipts and disbursements. Each company union should be made in fact as well as in theory legally responsible for its contracts.

Unions are here to stay. It's no good fighting them blindly. It's no good hoping that when F. D. R. and his new deal are thrown out that the good old days will come again and that the labor movement will be discredited and emasculated. Be realistic. First of all, if you are afraid of unions then provide the working conditions, supervision and wages that will make unions superfluous. Secondly be open, honest and aboveboard with your employees. Get rid of the hush! hush! stuff—the silly secrecy upon which the grapevine flourishes. Take your employees into your confidence; they are making and selling the stuff; why therefore be afraid that they will learn something about the business and its difficulties. Isn't it better to tell your employees the unvarnished truth than to have them get garbled information via the grapevine?

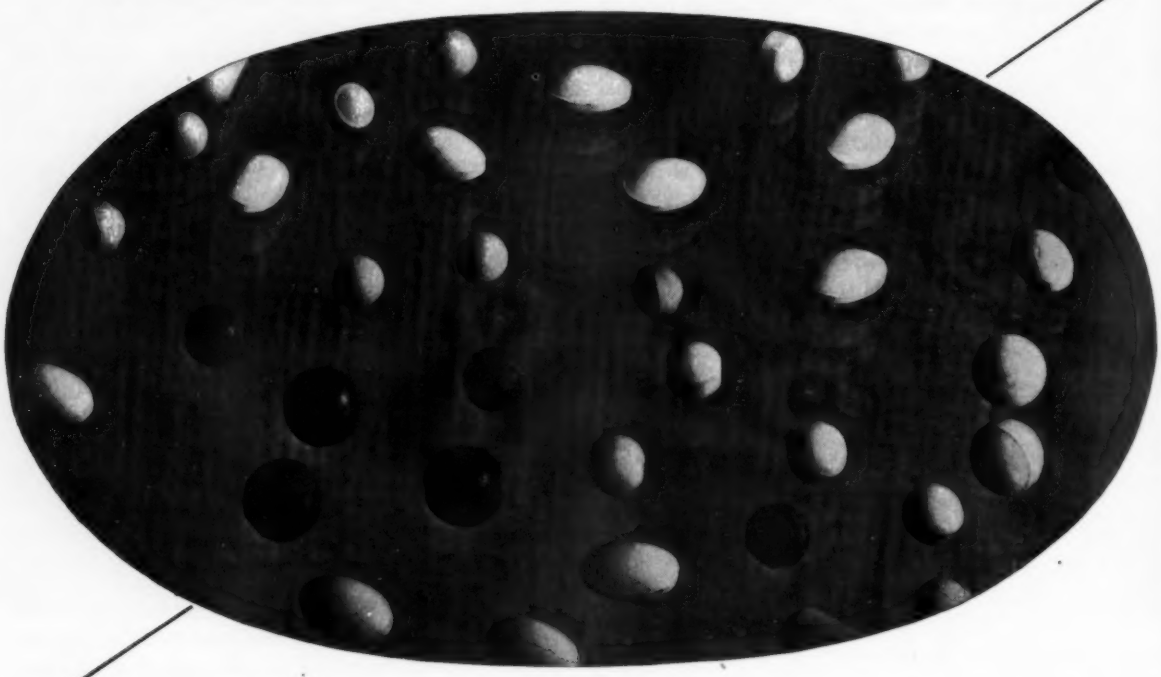
There are many employers of course, who are making a sincere effort to solve their labor problems. They go to extremes to provide excellent working conditions, high wages, health insurance, vacations and social activities. But the number of such employers is all too few. For every manufacturer who understands and cooperates with his labor, there are a thousand who go only part way or who do nothing at all. The only way to combat unionism is to beat the unions at their own game by providing much better than standard conditions and compensation. If you, as an employer, have done this, and if your employees have their own union or organization, you will have no difficulty with the union and you will find that in dealing with employees through their representatives, you can get a much quicker and truer picture of employee reactions than you can when they are not organized. Trade unions, as such, are anything but lily-white. As often as not, they act directly contrary to the interests of labor as a whole. But it is only common sense to point out that when you can not eliminate a condition which is definitely beyond your control and is also permanently a feature of your business, the thing to do is to capitalize it to your own advantage.

PATENTS

On two or three occasions in the past, this department commented on the abuses in the issuance of patents and protested against the issuance of nuisance patents, impractical patents and unimportant patents. You don't have to have a novel idea to get a patent. All you need is a clever patent attorney. Nuisance patents are taken out deliberately in the hope of obstructing further invention by a competitor. For example, a manufacturer will invent a new type of labeling machine and then will supplement the original patent or the original claims with other patents and claims on other methods of accomplishing the same purpose. This will be done in spite of the fact that the inventor himself knows that these other methods, by no stretch of the imagination, could be made mechanically practical. Another trick of clever patent attorneys is to use a generic title to describe a mechanical action. For example, if a machine performs the function of breaking or cutting material, and if this cutting is done by means of, let us say, a rotary knife or blade, the clever attorney will, in the patent application, describe the cutting blade as a "severance means." If later someone else comes along with an idea or a better machine for accomplishing the same purpose, and if this better machine uses a cutting flame or a blast of air or a reciprocating wire to effect the cutting operation, the patent will be interference because all these means are "severance means."

Elsewhere reference has been made to the silliness of an idea wherein two men will invent similar labeling machines and each will get a patent, in one instance because the bottle is labeled standing up and in another it is labeled lying down. So many of these patents have been issued and have been the cause of so much obstruction and costly litigation, that according to Time Magazine the whole method of issuing patents is going to be overhauled and emphasis will be placed on originality and usefulness. This is certainly good news, long overdue.

Compress Your VITAMINS



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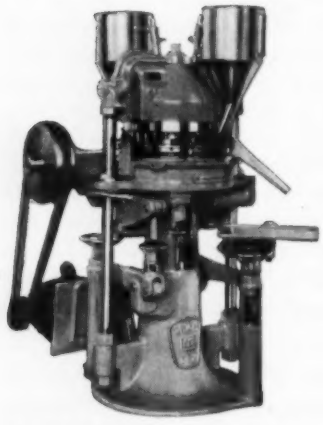

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ROUTINE

Last month some impolite, not to say caustic, comment was made, on the way in which many executives permit their time to be wasted by trivial routine. It was very pleasing to have one of the elder statesmen of the industry telephone me to say that he felt that the article was a major contribution to business literature and that it should be reprinted for wider distribution in the drug and cosmetic industry. He went on to say that he never could understand why the majority of prominent business men waste important time and energy on trivial details which could be handled in so many cases by good secretaries. He also said that all during his life he had had to fight getting involved in details, because details often are very insidiously interesting.

This gentleman put his finger right on it. Details are often so very interesting that unless you are careful you will find yourself burrowing into them over your head.

Involvement in detail isn't limited to Mr. Big and his right hand men. It affects lesser executives to an even greater degree. The excuse is frequently made that failure to correct a situation which is known to be wrong or failure to reorganize an inefficient department is due to "paper work." Many executives are always too busy to get anything really important done. Somebody has to look after the paper work and the records, of course, but this work almost invariably can be delegated to subordinates and clerks. If a man is an executive, he should have time to "execute" the important work assigned to him. The vice-president of one of the big mid-western companies told me recently that he had a good system for handling paper work. He had a large drawer in his desk into which all paper work was placed excepting certain important categories, such as financial reports, which were held out by his secretary. The batch of paper was allowed to remain for a month. After that all of the items which had not been followed up were regarded as unimportant and were sent to the files. Every man has his own system, of course, and any system is good if it gives you time to concentrate on important things.

ACCELERATING RESEARCH

Research chemists dislike to work under pressure. They profess that ideas must be incubated at leisure. They like to contend that true scientific work can not be definitely programmed; that time limits can not be placed upon it; that results can not be guaranteed and finally that it is difficult to estimate the cost of research work. The war has debunked this research tradition. Pressure has been placed on research chemists in no uncertain terms. They have been given jobs to do within time limits and they have responded magnificently. The number of innovations that chemists have made; the number of new products they have created; the plethora of difficulties they have waded through, have been "splendorful." In other words, research chemists themselves have proven that you can put the bee on them; that they can produce results under pressure. After the war, let's not forget this. Let's budget our research expenditures more carefully. Let's place time limits on our research programs. Let's keep every research chemist under steady but unremitting pressure. I think everybody works best under pressure, regardless of whether he is doing manual or creative work. When there is no pressure applied from above, too much time is lost in wool-gathering and in the pursuit of idle fancies up tangential alleys. Now that I've spoken my piece, I know I shall be damned by every research chemist from Hell to Harlem.

HANDLING WPB

Recent experience has imparted an insight into the inner workings of WPB which you may find useful the next time you make an application for equipment. Remember that the *presentation* of your request is all important. Answer the questions on the application form specifically and don't keep referring the examiner to an attached letter for the answers. The department goes by the official form. It must be complete, specific and consistent. Covering letters frequently become detached and lost. If you fill out the application form merely with your name and address and refer to a covering letter for the answers to most of the questions on the form, your application, regardless of how justifiable, is certain to be rejected. Don't waste a lot of time and space on the form or in the covering letter relating how essential your business is. As the head of one of the divisions of WPB recently told me "Every damn application WPB has ever received was essential or indispensable to the war effort." One government contract number is worth 10,000 words.

When you know the make up of the WPB you will understand that it's a very human organization and is very human in its reactions. On the whole, WPB has done a magnificent job. You will find in WPB in Washington a professional bureaucrat either as the head of the division or as an important assistant. His job is to tie the division in with the rest of the governmental organization. When you are dealing with a government bureaucrat, three things are important in his mind, and these three things take precedence over every thing else. The first is his job; the second is his raise; and the third is his pension. Therefore, he will go by the "book." He will not take any chances or put himself out on the end of a limb in any way. He is usually not an expert in the field in which he may be exercising considerable authority. In the machinery field, he probably doesn't know anything about it at all, excepting what he has learned since he came to WPB. Therefore, he insists, that since the application is an official government record, it must contain all the facts necessary for a decision. It's on the basis of this information, that his conduct will be judged after the war. As one of them told me, he'd be "damned" if he'd take any chance

IT WON'T HURT THE WAR TO THINK ABOUT PEACE!

It won't hurt the war for American business to lay plans to insure a peace that will mean the beginning of a greater era for Americans. Such a peace will be predicated on an industrial system which will increase the productivity of every worker to make more things available to more people. That means highly efficient, newer, better methods and machines.

In the field of packaging machinery Triangle offers today many machines heretofore unparalleled in performance. After the war other new developments *will be available* to further improve packaging efficiency. Triangle is ready to help you now to think about peace—and packaging machines. Many customers have already ordered Triangle equipment for post-war delivery. Your inquiries are invited.

In addition to building essential package machinery, Triangle is producing quantities of parts and assemblies for war equipment. This work comes first and for it Triangle long since received, unsolicited, the Army-Navy "E".

Ask About the ELEC-TRI-PAK

The last word in modern packaging machinery, automatic and semi-automatic Elec-Tri-Pak Vibratory Feed Weighers are available today, on priority, for packaging crackers, cookies, candies, beans, peas, rice, tapioca, metal specialties, rivets, nuts, bolts, grocery staples, potato chips, marshmallows, coffee, prunes, bread crumbs, chemicals, powders and a host of other items. They feature: fraction-of-an-ounce accuracy; speed; self-cleaning; delicate handling of product; quick change-over from one product to another; versatility. NEW 20 PAGE BULLETIN describes many Elec-Tri-Pak installations. Write for a copy.

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which would give any post-war investigator an opportunity to criticize his decisions on the facts stated in the form. "Protect your job first; then win the war."

Another class of official you will find in WPB are the so-called "experts." These are the men called in from industry because of their experience in certain lines. Some have been capable, but many of them have not been so hot. Experts can not be obtained for $4,000.00 or $5,000.00 a year. Hence WPB had to do the best it could with the money available. So it collected a lot of clucks and pensioners. In one case, an ex-bookkeeper from a specialized equipment house, is in charge of a particular machinery division. He's a big shot now. In Washington he can pose as an expert in his specialized field. He likes to impress visitors, who don't know anything about his background, with his importance. If you have occasion to go to Washington and plead your case, you have to be very careful how you handle such an individual. If he has the least inkling that you know how little he really knows, your application has no more chance of getting through than a snow ball in hell. That's the way human nature works. Washington is the national stage. Everyone down there is conscious of the spot light and even the little men, who are playing bit parts, like to strut their stuff.

Above all, the answers to the questions on the form and in your letter must be consistent. The chances are the head of the division, whether he is a government clerk, or one of the experts, will not really know very much about the equipment nor the necessity for it. Hence, they have a formula for judging the merits of an application and consistency in fact and logic is an important element in this formula. Inconsistency in any degree will cause swift rejection.

In other words, getting an application through WPB is a selling job. You should thoroughly familiarize yourself with the workings of the local WPB headquarters and the headquarters at Washington as well, then you should make a very careful study of your presentation. If you do this, the chances are that, if you have a leg to stand on, your application will go through.

PENSIONS

In the light of the comment I made a few months ago, regarding old executives who obstruct action through indecision, because they are afraid to make decisions that may jeopardize their pensions, the following exact quotation from one of the financial news services on a certain locomotive company is very illuminating:

"Due to the pressure of war demands, the ancient and obsolete production methods of many of the locomotive builders have been replaced by modern engineering and tools, bringing about substantially lower production costs and better margins of profit. *This is a very important factor, in that, for many years managements of the companies have been in the hands of old men many of whom were more anxious to perpetuate their own jobs*

than to produce better products, expanded sales and larger stockholders' dividends. This situation is about to change."

FLEXIBLE TUBING

Solvent-proof, rubber-like and transparent tubing, made of compar, a special type of vinyl resin developed by Resistoflex Corporation of Belleville, N. J. is finding a number of new uses in aircraft and other industries.

In laboratory use its transparency permits constant inspection of the contents. Because the tubing is tough, strong, and completely inert to almost all organic solvents it is highly useful for low pressure, room temperature handling of these hard-to-handle materials. It is not affected by even such active solvents as carbon disulfide, carbon tetrachloride, trichlorethylene, perchlorethylene, acetylene tetrachloride, benzol and toluol or by oils and fuels such as high octane gasoline with the highest aromatic content, which are used in ordnance and aircraft work.

Having the lowest permeability to gases of all natural and synthetic rubber-like materials and being unaffected by such gases as freon, methylchloride, methyl bromide, phosgene, mustard, propane, butane and water gas, further applications are immediately apparent. When used on Bunsen burners or other laboratory appliances the tubing does not absorb the protective odors with which illuminating gases are usually loaded and, therefore, prevents the laboratory atmosphere from being contaminated by them.

One of the many interesting applications which has been developed recently and for which transparent compar tubing has been used with greatest success in the aircraft industry is as temporary instrument lines for test flights. Filled with mercury, its transparency permits taking moving picture records of the field movements during test flights thereby making possible an accurate check of the flight instruments. Another application for which the translucent tubing has proven well adapted is as a cover for the conveyor hooks passing through degreasing operation.

While transparent compar laboratory tubing is extremely tough and strong it is not generally recommended for industrial applications which now employ fabric reinforced hose constructions containing tubes or cores of other compar formulations. Resistoflex hose and hose assemblies, using compar, are widely employed for aircraft instrument and hydraulic lines, fuel and oil lines on industrial machinery. Resistoflex Corporation, Belleville, N. J.

MULTI-PORE

The development of multipore, a filter material containing as many as 6400 perforations to the square inch, is now being used by chemical plants, food factories, medical manufacturers, coal and iron mines,

A War Vocabulary

SECOND FRONT

In war terminology, "the front" is the most advanced position or field of operation. This war presents many fighting fronts, but our second front should always be the "home front," designed to back up our soldiers, not merely to furnish them with the sinews of war, but to maintain a morale and preserve those elements of democracy of progress and of opportunity worth their fighting for.

Let's continue to build and maintain this "home front" so that when our boys return from the fighting fronts, we may not have been found wanting, or to have failed in serving as we should.

While our prime effort and consideration now must be in winning the war—let's also be ready to win a peace that is worth while. Our secondary thoughts after helping to build and deliver war material is therefore, to plan and prepare for a peace economy and progress, through progressive activity, each in our own particular line of endeavor.

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This versatile material is also filtering fruit juices for shipment to combat areas. It is serving in the purification of insulin, aiding in the production of the magnesium metal which is lighter than aluminum, and speeding up the production of four-engine bombers.

Multipore may be traced back to the day 18 years ago when chemists at the laboratories were pioneering in the use of natural rubber latex for waterproofing raincoat fabric. Pinholes almost microscopic in size mysteriously appeared after the fabric had been heated in the drier. These holes were found to be the result of small explosions. Pockets of air were being trapped within the mesh of the fabric. When they were expanded by heat they exploded through the film of latex that had been spread on the fabric.

A remedy to eliminate this defect was found. Scientists reversed their finding to see just how many holes they could create in a square inch of latex film. After intensive research, they succeeded in blowing as many as 6,400 holes to the square inch, in sheets up to 42 inches wide and 20 yards long.

The present method of making filter material is based on the factors which caused the pinholes in the original raincoat fabric. Latex is spread on a cured rubber blanket containing the desired number of nearly microscopic pits uniformly distributed. When this is heated the air trapped in each pit is expanded and blows a hole through the latex film.

These filter screens are made of either hard or soft rubber, and may be compounded to resist abrasion, high temperatures, alkaline and acid solutions, as well as certain oils and greases. Since they are made only from natural rubber latex of the Hevea tree, now one of the most critical of all materials, the filter can be applied only to the most important products.

One of the paramount uses of this product is in the preparation and administration of blood plasma and whole blood as used in modern methods of transfusion. The filters serve to separate blood clots from whole blood, and "veils" or cloudiness which sometimes form in blood plasma.

Two years ago a steel company installed the first multipore filter in the flotation process of separating ore. This was an experiment to determine longevity. In this severe service, where fine, sharp particles of iron ore are separated, the conventional filter material lasted only a week. Multipore filter showed no signs of wear at the end of a month. As a result of these tests, other units were converted to using these multipore filters. None has worn out. Many have been in continuous use almost two years. Loss of replacement time and labor has been eliminated and production on each filter has been increased from 200 to 400 hours per year.

Bases for Sulfa Drugs

(*Continued from page 283*)

continue the heat and add the tragacanth, allowing the mixture to stand for 24 hours. Strain the tragacanth mucilage (i.e., through muslin) if necessary. Combine the sulfadiazine paste and the tragacanth mucilage.

The following reasons are given[7] for the preference of a water-soluble base for sulfathiazole ointment: (a) a water-soluble base insures the best local bacteriostatic action of the drug; (b) oily dressings mask the appearance of infection by interfering with the drainage of pus; (c) a water-soluble preparation deteriorates less rapidly in hot climates, is easier to handle, and can be allowed to remain on a dressing for a longer time without being changed. Two water-soluble bases, one listed further on in this article under "Vanishing Cream and Creams," and one given below, are recommended for a 3% sulfathiazole ointment:

Tragacanth	60.0
Glycerin	180.0
Phenol (88%, U.S.P.)	2.5
Distilled water, qs	1000.0

Mix the glycerin with 750 parts of distilled water in a tared vessel, heat the mixture to boiling, discontinue the heat, add the tragacanth, macerate the mixture during 24 hours, stirring occasionally. Then add the phenol and enough distilled water to make the mixture weigh 1000 Gm. Stir actively until it is of uniform consistency, then strain through muslin.

OINTMENT-EMULSIONS

As an aid to classification, there are two basic methods of preparation of ointments regardless of the vehicles chosen in formulating the finished product: (a) Those ointments made without water (non-emulsified), and (b) those made with water (emulsified).

The superiority claimed[8] for emulsified ointments (designated herein as "ointment-emulsions") as carrying agents for both oil-soluble and water-soluble ingredients is based on the fact that they are convenient to apply and remove and also that they do not interfere with the normal function of the skin as regards to heat radiation and secretion.

Ointment-emulsions, like emulsions, may be further classified as the oil-in-water type and the water-in-oil type. Either type may be produced by proper choice of the emulsifying agent.

Water-in-Oil Bases

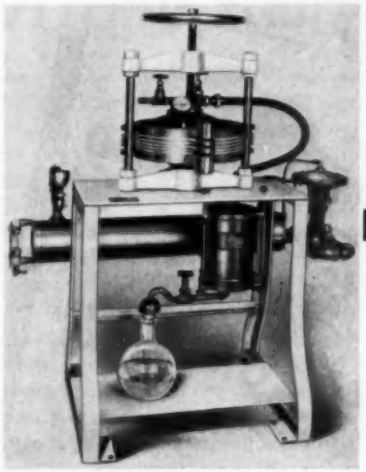
One of the earlier recommended sulfanilamide formulas[9] for a water-in-oil ointment-emulsion, using sodium alginate as the emulsifying agent, is as follows:

a. Dissolve 10 parts of sulfanilamide in 25 parts hot water (almost boiling). Filter.
b. To 4 parts of sodium alginate, add 75 parts of boiling water, emulsify and then strain the resulting mucilaginous mixture through fine gauze. Mix the filtered sulfanilamide solution and the sodium alginate while hot, and stir the mixture until cool.
c. Add 16 parts of anhydrous wool fat, 1 part of sodium chloride dissolved in 4 parts of water, 78 parts of white petrolatum base to the sulfanilamide-sodium alginate mixture and mix until smooth.

While sulfanilamide can be incorporated easily in the above base, it would be much more difficult to combine sulfathiazole in the same base.

(*Continued on page 345*)

PENICILLIN



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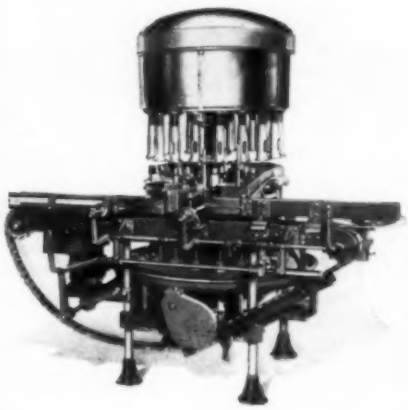

Although we "enlisted for the duration" and have devoted our expanded facilities largely to the production of urgently needed war materials, we have continued to meet the requirements of our customers whose needs were rated as essential by W.P.B.

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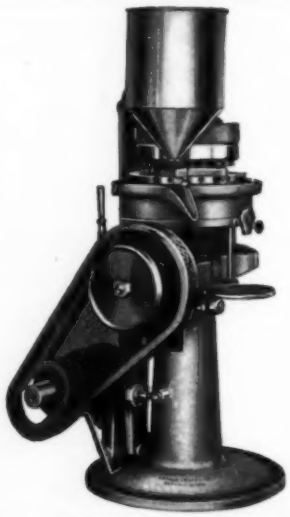

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Considerable interest has been evinced in the use of isopropyl alcohol as a substitute for ethyl alcohol in the manufacture of perfumes and cosmetics. However, as pointed out by A. E. Katz, president of Florasynth Laboratories, Inc., in the production of toilet preparations, unless the odor of isopropyl alcohol is neutralized by means of various aromatic chemicals and essential oils, the products cannot be used with success. Several neutralizing agents under various trade names have been introduced on the market lately. Good neutralizing agents, the function of which is not to add to but rather to neutralize the persistent odor of isopropyl alcohol, are usually made with such aromatics as linoallol, vanillin, coumarin, heliotropine, linalyl acetate, methyl heptin carbonate, methyl paracresol and other aromatics. However, only such aromatic chemicals and essential oils should be used which harmonize with the odor of isopropyl alcohol and which have no tendency of bringing out the persistent, characteristic odor of the alcohool. Only isopropyl alcohol of the highest purity (99 per cent) can be used successfully in the production of after-shave lotions such as lilac, bay rum, eau de cologne and the like.

RACEMIC MENTHOL

The substitution of racemic menthol for the *levo* form found in nature has been repeatedly urged, but the difficulty of preparing *dl*-menthol free from its isomers, all of which have a disagreeable taste and odor, has prevented the replacement of the natural form by the racemic. In spite of numerous contradictory statements in the literature, pure racemic menthol is indistinguishable by the average chemist in taste and odor from recrystallized *l*-menthol. Pharmaceutical differences are slight so that there seems no reason why *dl*-menthol of a satisfactory purity cannot be substituted for the natural *levo* form in most of the latter's uses.

According to A. L.Barney and H. B. Hass (*Ind. & Eng. Chem.* 36:85, 1944) the ready availability of thymol by the isopropylation of *m*-cresol has made this an attractive potential source of synthetic menthol ever since catalytic hydrogenation has been known. Much work on the problem has been done but the difficulty of separating *dl*-menthol from the complex mixture with its isomers and the ketones related to the four menthols has remained an obstacle.

These workers describe a new synthesis of racemic menthol from thymol, in which the desired products are separated in each of two steps by precision vacuum rectification. The use of a dehydrogenation catalyst in conjunction with a sixty-plate column allows the complete conversion of all the hydrogenation products of thymol to *dl*-menthone, which can then be catalytically reduced to give a good conversion to *dl*-menthol. All by-products obtained may be recycled, and the *dl*-menthol produced is indistinguishable in taste and odor from pure *l*-menthol. No single criterion is adequate to measure the purity of the final product; the melting point, about 36° C., is not markedly affected by traces of the isomers and is dependent on the rate of heating. The material will liquefy on prolonged standing at 30° C., due to ease of inter-conversion of at least two crystalline forms.

OIL OF PENNYROYAL

According to Y. R. Naves (*Helv. Chim. Acta.* 26:162, 1943) the analytical character of pennyroyal oils produced at the present time in the Iberian Peninsula and Morocco are different from those of the traditional oils. This, it has been found, is due mainly to the presence of *l*-menthone, *d*-isomenthone, and piperitenone in addition to the customary pulegone.

PEPPERMINT OIL IN TEXAS

A note in *The Chemurgic Digest for* January 15, 1944 reports that as a result of extensive experiments in growing peppermint for its oil content by the University of Texas, there is every indication that this crop can be cultivated successfully on irrigated Texas lands. C. C. Albers has obtained varieties of Japanese and Oregon peppermint through the United States Bureau of Plant Industry and is now experimenting to determine its oil content. The irrigated district of the lower Rio Grande Valley is considered a favorable locality for mint cultivation.

INTERESTING SEED OILS

In the years just prior to the outbreak of the present war a number of researches were carried out in Czechoslovakia on certain plant seed oils, including those of the poppy, paeony, quince, nigella, henbane and ash, and some grain oils. As remarked in *Manufacturing Chemist and Manufacturing Perfumer* (14:397, 1943) much of this work was then of little interest apart from the viewpoint of pure chemistry, but today the results are not without significance, since useful quantities of such oils might well be extracted from sources hitherto ignored.

Certain of these seed oils are of definite interest to cosmetic, perfume and pharmaceutical manufacturers and their properties, as given in the table below, were determined in one of the best Central European institutions. After careful grinding, ether was usually exployed to extract the oil, but carbon tetrachloride and other solvents were also used.

	Quince	*Nigella*	*Paeony*	*Hyoscyamine*
Percentage oil in seed	20.5	30.0	22.15	30.25
Density	0.919	0.893	0.96	0.921
Acid No.	7.82	14.68	14.01	23.6
Saponification number	186.0	210.6	211.26	187.7
Iodine value	107.6	110.9	187.1	135.7
Reichert-Meissl number	2.046	3.378	1.537	1.055
Polenske No.	0.467	0.532	0.557	0.452
Acetyl value	23.58	23.92	12.96	21-21.6 20.54
Hehner value	...	89.22	91.87	93.34

Quince oil is a non-drying product from the seeds of *Cydonia vulgaris* and has a pleasant odor reminiscent of almonds. It contains myristic acid. Quince seeds are also characterized by the presence of a mucilage. Henbane oil is obtained from the seeds of *Hyoscyamus niger* as a yellow, slightly fluorescent oil that is somewhat viscous and dries readily.

LILY FLOWERS OIL

According to a note in *SPC* for January 1944, G. Igolen (*Compt. rend.* 214:772) has carried out some interest-

ing work on the constitution of essential oil of lily flowers (*Lilium candidum, L.*). Apparently, the oil obtained by distilling the light petroleum extract of these flowers with diethylene glycol at 3 mm. contains esters of paracresol, linalool, α-terpineol and β-phenylethyl alcohol with acetic, palmitic and cinnamic acids.

COD LIVER OIL ODOR

We understand that the unpleasant odor of cod liver oil and other fish liver oils used in cosmetics, burn ointments and the like can be masked or modified quite effectively by a product put out by Magnus, Mabee and Reynard of New York City. From the same source we learn that cosmetics made with cod liver oil appear to produce most if not all of the desired effects within an hour or slightly more. Hence, unless specifically desired, there appears no need to leave such products on the skin for longer periods, such as over night.

STABILIZING PERFUMES

The addition of one per cent or less of an aliphatic or an alicyclic compound, such as ascorbic acid, is recommended as a stabilizer for perfumes (such as various essential oils) against racidification in U. S. Patent 2,324,347 granted to C. N. Anderson and assigned to Lever Brothers Co. Another patent (2,324,348) issued to the same inventor relates to the stabilization of perfumes which are used in soaps by adding ascorbic acid to inhibit oxidation.

LATIN-AMERICA PLANTINGS

Freedom from extra-hemisphere sources for certain raw materials looms as a distinct possibility as a result of cooperative activities with Latin-American countries.

Thus, according to a note in *Foreign Commerce Weekly* for January 29, 1944 several clumps of citronella grass (*Cymbopogon nardus*) from the north coast of Honduras have been planted at the Nicaraguan Government nursery at Masetepe and at the United States-Nicaraguan complementary-crop experiment station near El Recreo. As soon as propagation stocks are available, clumps of the citronella will be distributed to persons interested in growing it.

No appreciable amount of citronella is expected to be available for export in the near future, however, because this plant was brought to Nicaragua only a few months ago.

In line with such activities is the information given by A. A. Pollan of the United Fruit Company. In a recent talk he reported that his company, of which he is executive vice-president, is planting experimentally in Honduras and elsewhere in Middle America such desirable tropical crops as lemon grass, citronella and vetiver; tropical grasses which yield valuable essential oils used widely in the manufacture of menthols, pharmaceuticals, sprays, perfumes and toilet goods; also strategic tropical oils such as cohune, castor and African oil palms.

ESSENTIAL OIL FROM INDIA

An essential oil obtained by distillation from the seeds of *Carum roxburghianum* has been examined by B. K. Malavya and S. Dutt (*Proc. Indian Acad. Sci.;* 16:157, 1942). This greenish-yellow oil contained *d*-limonene (35.1 per cent), a mixture of *d*-limonene and dipentene (2.5), α-terpinene (19.4), *d*-linalool (4.7), *dl*-terpineol (5.7), thymoquinol (0.2), thymol (1.7), *dl*-piperitone (13.6), *p-iso*propylbenzoic acid (0.4), unidentified ketonic *acid* $C_{10}H_{14}O_3$ (*oxime*, m.p. 117-118°; *semicarbazone*, m.p. 228-229°) (1.0), unidentified esters (5.9), and other unidentified material (9.8 per cent).

PROPYL GALLATE AVAILABLE

Contrary to a statement in the January 1942 issue of DRUG AND COSMETIC INDUSTRY (made after a check of trade lists and a lot of telephone calls), we find that propyl gallate, valuable as a stabilizer for products subject to oxidation, is available from at least two American sources. These are: Heyden Chemical Corp., 50 Union Square, New York, N. Y. and Chemo Puro Manufacturing Corp., 48th Avenue and Fifth Street, Long Island City, N. Y. The former also provides a useful set of technical data sheets (111-1) on propyl gallate.

LICORICE FROM CALIFORNIA

Ignored for over fifty years as a useless weed, and allowed to grow wild, the first carload of California licorice was shipped to the East recently to determine the feasibility of its use as a substitute for licorice root formerly imported from the Near East, Russia and Spain. California has three types of licorice growing wild but only one variety has potential value. The seeds of this variety were brought from Asia Minor and planted in Kings County, California, in 1890. While it was found to thrive on the alkali soil, production was never able to compete with imported root due to the cost of harvesting. Recently, these roots were prepared for shipment after they had been allowed to dry for four months to a moisture content of 12 per cent. As a result of this activity, says the *Chemurgic Digest* (2:214, 1943), considerable interest has been created concerning the possibilities of this crop.

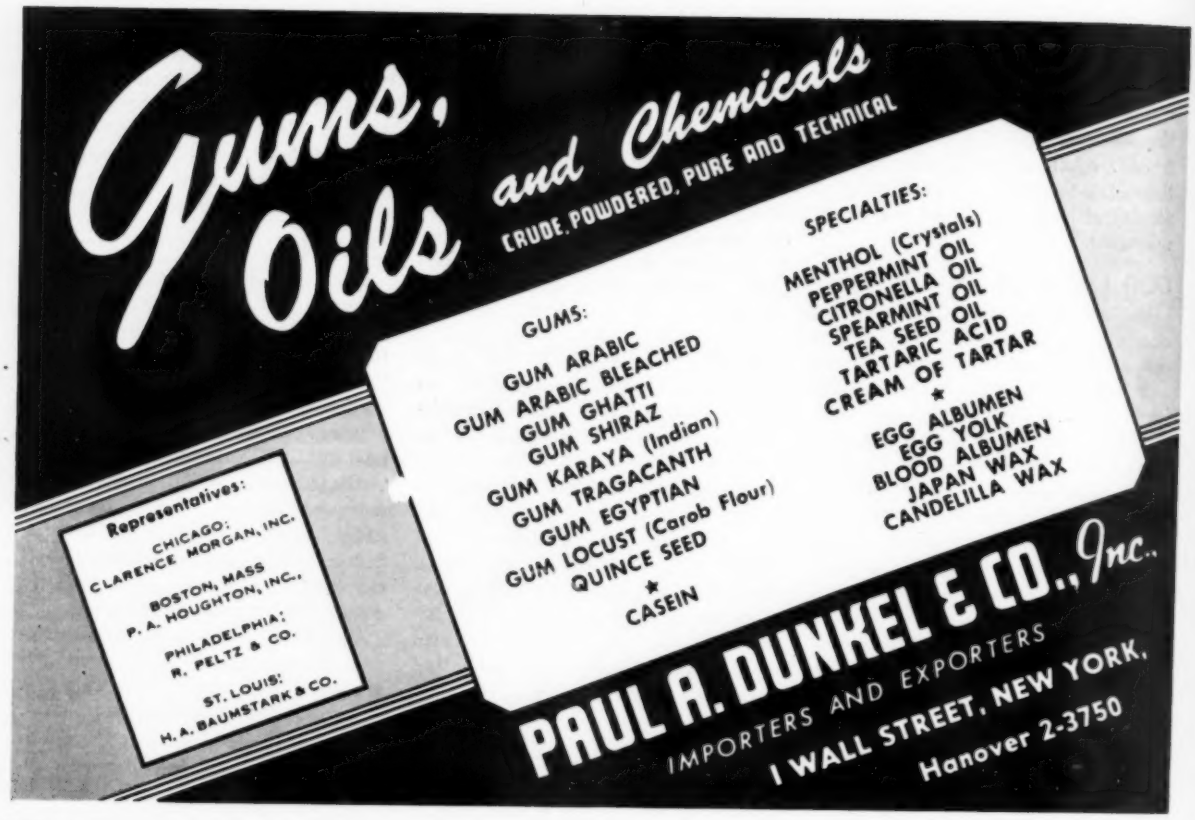
CEDRENES

In an extensive study and review of cedrenes, Y. R. Naves, G. Papazian and E. Perrottet (*Helv. Chim. Acta.* 26:302, 1943) report that artificial cedrene (alpha-cedrene) obtained by the dehydration of cedrol is a definite sesquiterpene containing an endocyclic ethenoid linkage. Natural cedrene, formed on the fractional distillation of American red-cedar oil, is a mixture composed mainly of alpha-cedrene, the isomeric beta-cedrene with an exocyclic methylene group, and a mixture of similarly constituted bicyclic sesquiterpenes.

Oxidation of alpha-cedrene with hydrogen peroxide in sulfuric acid and acetic acid gave an excellent yield of a new dihydro sesquiterpene ketone, *cedranone*, $C_{15}H_{24}O$, b_4 134°, $d_4^{25°}$ 1.0024, $n_D^{25°}$ 1.49982, α_D —84.70°; *oxime*, m. 103.5-4.0°, $(\alpha)_D$ —78.59° (*c* 8.85 in $CHCl_3$), —69.14° (*c* 8.84 in methyl alcohol). The acid-soluble transformation product of the action of concentrated sulfuric acid on cedrenes is a dehydro sesquiterpene or a mixture of compounds of this type.

INSECT ATTRACTANTS

In studies of the attractiveness of certain plant constituents to the Japanese beetle, G. S. Langford, M. H. Muma and E. N. Cory (*J. Econ. Entomol.* 36:248, 1943) made tests with 52 compounds and mixtures. The materials were exposed in standard traps and the data were evaluated against a mixture of 90 parts geraniol and 10 parts eugenol with a value of 100. At least 30 materials were in some degree attractive. Among the alcohols, geraniol and eugenol were best but citronellol, phyllethyl alcohol and linalool were definitely attractive. Among the higher fatty acids, valeric, propionic, caproic and butyric were most attractive in the order named. Dilute acetic acid solution added to other materials seemed to enhance the attractiveness of the mixture. Of the essential oils, pimento oil was most attractive; others were attractive in the order, citronella > bay > coriander > cloves > sassafras > rose geranium > lemon greass > linaloe. Some of the esters and aldehydes tested showed slight attraction.



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HAIR LACQUER DERMATITIS

Reports on the increasing incidence of hair lacquer dermatitis continue to appear in the medical literature. From Springfield, Mass., A. Hollander (*Arch. Dermat. & Syphil.* 48:656, 1943) reports on 15 cases of allergic dermatitis caused by hair lacquer products; 11 caused by hair lacquer pads and 4 by hair lacquer itself. In Atlanta Ga., H. Hailey (*Southern Med. J.* 37:38, 1944) wrote about 11 patients with lacquer dermatitis that had come under his care; 10 having used lacquer pads and one having used the lacquer as a spray to the hair. All of these patients had a dermatitis generally resembling that following contact with poison ivy.

The cause of the dermatitis has been traced and reported by L. Schwartz (*Public Health Rep.* 58:1623, 1943). According to this authority, hair lacquers, which are used to keep stray locks in place, first were made of shellac either dissolved in alcohol or treated with borax or with triethanolamine. Dermatitis only rarely occurred following the use of hair lacquer made from real shellac, but when the supply of shellac began to diminish on account of the war substitutes were used. Manila gum was the first substitute, but the supply of this also failed and cosmetic houses appealed to their shellac jobbers for a substitute. Synthetic resins were supplied. Undoubtedly the synthetic resins consisting of a combination of maleic anhydride and rosin were the actual cause of the dermatitis although the alkalinity of one of the products (*ph* 9) and the strong acidity of another (*ph* 3) aided the penetration of the resin into the skin.

VITAMINS AND THE SKIN

In a review of the role of vitamins in dermatology, J. J. Eller and L. A. Diaz (*Urol. & Cutan. Rev.*. 47:234, 1943) summarize much of the pertinent data in this important field.

Vitamin A: Vitamin A is essential in maintaining the healthy condition of all epithelial structures. Its lack causes an atrophy of the epithelium with reparative proliferation of the basal cells. Regardless of location, a deficiency may lead to formation of stratified keratinizing epithelium. Dermal lesions are among the earliest deficiency manifestations. The skin becomes dry and tough. Later papules formed by hyperkeratosis of the hair follicles appear on the anterior and lateral surfaces of the thighs followed by similar lesions on the shoulders, abdomen, back, buttocks, neck, and face.

Vitamin A has been used in the treatment of keratosis pilaris, lichen planus, lichin spinulosis, ichthyosis follicularis, pityriasis rubra pilaris, and generalized ichthyosis. In the case of skin lesions, a slow process of anatomic repair is necessary, sometimes requiring up to 14 months before the eruption disappears.

Vitamin D: No skin manifestations have been reported as a result of vitamin D deficiency.

Vitamin B_1 (Thiamine): No specific dermatological condition has been attributed to lack of vitamin B_1.

Vitamin B_2 (Riboflavin): The skin manifestations of riboflavin deficiency include pallor, maceration, fissuring and crusts at the angles of the mouth. The lips become red along the lines of closure. In addition to chilitis about the lips, there is a greasy seborrheic desquamation in the nasolabial folds, on the outer sides of the nostrils, and in the vestibules of the nose and ears.

Vitamin B_6 (Pyridoxine): The only skin manifestation said to be beneficially influenced by pyridozine is chilitis, which is flavorably influenced by riboflavin therapy.

Nicotinic Acid (Niacin): Nicotinic acid is curative of many of the manifestations of pellagra. The typical skin lesions of this disease are characterized by redness, swelling, dryness, thickening and scaling of the skin on those areas exposed to the sun's rays or to trauma. The most frequent sites are the backs of the hands, elbows, knees, feet and neck, although the skin lesions may involve any part of the body. In addition to the skin manifestations, glossitis, stomatitis and chilitis and other organic symptoms may be present.

Nicotinamide is preferable to nicotinic acid because it does not have untoward vascular effects, such as dilatation of the peripheral blood vessels, etc.

Vitamin B Complex: Extensive and localized non-pellagrous eruptions have been reported as responding to treatment with vitamin B complex, especially liver extract. Extensive monelial infections have responded promptly to liver therapy. Emphasis is placed on the relationship of this infection to vitamin B complex deficiency in persons with diabetes. Vulval and anal eczema and kraurosis vulvae have been favorably influenced by administration of the vitamin B complex, and the possibility of a vitamin A and vitamin B complex deficiency is considered for kraurosis.

Certain types of arsphenamine dermatitis are believed to respond particularly well to liver therapy because they represent instances of vitamin B complex deficiency resulting from the direct effect of the drug on specific functions of the liver.

Vitamin C: The only definite cutaneous manifestations caused by vitamin C deficiency are those seen in scurvy.

METALLIC CONTAMINATION OF GUMS

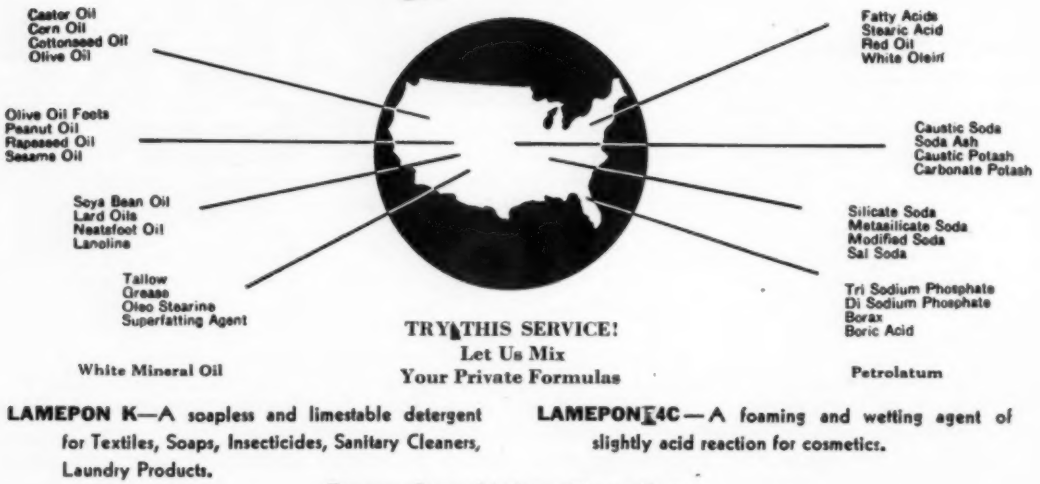
Analysis of a series of gums and suspending agents used in the manufacture of foods, drugs and cosmetics, made by R. H. Morgan (*Analyst* 68:331, 1943) have shown the presence of varying proportions of metallic impurities. His findings are tabulated below:

	Parts per million		
	Lead	*Copper*	*Zinc*
Agar-agar	2.9	nil	9.7
Arabic	1.8	4.0	3.0
Carob	2.0	8.0	1.0
Commercial vegetable gelatin	6.7	20	203
Ghatti	2.8	1.3	4.2
Irish moss	57	36	65
Karaya	1.4	17	2.0
Commercial sodium alginate	7.8	20	2.5
Tragacanth	4.9	23	55

SENNA SEED MUCILAGE

J. Roe (*Pharm. J.* 151:241, 1943) reports a series of experiments made with mucilage of senna seeds. To obtain the mucilage, five grams of the seeds were ground, put through a 20 sieve, boiled for half an hour with 500 cc. of distilled

RAW MATERIALS *for the* DRUG & COSMETIC INDUSTRY



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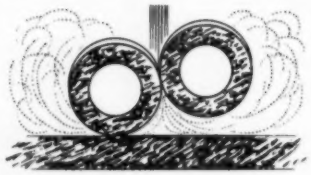

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water, allowed to stand for twelve hours and then strained through muslin. Since the 1 per cent mucilage was rather thin, another batch was made using 2.5 per cent of the ground seeds. The resulting mucilage, which was a pale yellow color, was just pourable and had a slight taste of senna.

To test the emulsifying properties the following emulsion was made:

Mucilage of senna seeds, 2.5%	25.0 cc.
Liquid petrolatum	25.0 cc.
Sodium benzoate	0.2 Gm.
Distilled water	50.0 cc.

The solution was put through a homogenizer and produced a satisfactory product; except for slight creaming it has remained stable for three months. The mucilage was found to be slightly superior in suspending 10 per cent of calcium carbonate in distilled water, when tested against the same quantity of mucilage of tragacanth.

The ground seeds were tested for anthraquinone derivatives with negative results. It is suggested that possibly ground senna seeds might, in view of the large amount of water they absorb, be used internally in the same way as psyllium seeds are now used.

BRITISH ARMY FORMULAS

In England, army doctors are treating civilian patients, hence many army formulas are likely to be prescribed. Some examples of such army formulas, given below, have recently been published in the *Pharmaceutical Journal* (152:20, 1944):

Application For Erythrasma

Resorcinol	10 grains
Salicylic acid	10 grains
Soft paraffin	to 1 oz.

Application For Prickly Heat

Menthol	2 grains
Camphor	10 grains
Oil of eucalyptus	3 minims
Soft paraffin	to 1 oz.

Alkaline Eye Lotion

Sodium chloride	5 grains
Borax	4 grains
Sodium bicarbonate	2 grains
Distilled water to	1 fl. oz.

Dilute with an equal quantity of warm water before use.

Alkaline Mouth Wash

Sodium bicarbonate	15 grains
Sodium chloride	10 grains
Sodium salicylate	1 grain
Water to	1 fl. oz.

To be used with an equal quantity of water, warm.

Copper Sulfate Mouth Wash

Copper sulfate	16 grains
Water to	8 fl. oz.

One tablespoonful to be used as mouth wash. Not to be swallowed.

Fuchsin And Phenol Paint (Castellani)

Saturated aqueous solution of basic fuchsin	10 mils
Phenol solution 5 per cent	100 mils
Filter and add	
Boric acid	1 gm.
Stand for 2 hours and add	
Acetone	5 mils
Stand for 2 hours and add	
Resorcinol	10 gm.

Keep in dark-colored, stoppered bottles.

Calamine And Sulfur Lotion

Sublimed sulfur	10 grains
Calamine lotion to	1 fl. oz.

Lotion For Ringworm Of The Feet

Formaldehyde solution (40 p.c.)	10 minims
Salicylic acid	10 grains
Alcohol	
Water, equal parts to	1 fl. oz.

Mixture Of Sodium Citrate

Sodium citrate	20 grains
Sodium bicarbonate	12½ grains
Water to	½ fl. oz.

Liquid extract of hyoscyamus 3 minims may be added if required.

Paint For Warts

Zinc chloride	30 grains
Salicylic collodion to	1 fl. oz.

Powder For Prickly Heat

Sublimed sulfur	
Zinc oxide	
Boric acid	
Starch	equal parts

Triple Dye-soap Mixture For Burns

Soft soap B.P.	
Water	equal parts
Sterilize by boiling	
Add to 100 mils.	
Gentian violet, 1 per cent Brilliant green, 1 per cent Acriflavine, 1 per cent	100 mils

Resorcinol And Sulfur Paste

Resorcinol	15 grains
Precipitated sulfur	15 grains
Zinc oxide	120 grains
Powdered starch	90 grains
Soft paraffin to	480 grains

Crystal Violet Paint

Gentian violet	2 grains
Distilled water	240 minims
Industrial methylated spirit to	1 fl. oz.

METHYL CELLULOSE AS A LAXATIVE

The possibilities of using methylcellulose as a colloid laxative have been investigated by M. L. Tainter (*Proc. Soc. Exptl. Biol. & Med.* 54:77, 1943). He found that the addition of 10 per cent of soluble methylcellulose to the diet of rats caused no apparent pathological changes in 95 days. In human subjects, the ingestion of 10 grams per day approximately doubled the volume of the stools and increased their frequency. Because of its water-holding capacity each gram of methylcellulose increased the stools by about 10 grams. However, the possibility of liberation of methyl alcohol by hydrolysis in the intestinal tract warrants further investigation.

RINGWORM OF THE TOES

Modifications in the standard preparations used in treating ringworm of the toes (e.g. "athlete's foot") are suggested by H. Goodman in the *Archives of Dermatology and Syphilology* (49:17, 1944). Treatment, he points out, is modified according to the stage of the infection. Thus, for hyperkeratotic lesions of the toes and toe interspaces he suggests the use of the following ointment to provide the keratolytic action of salicylic acid:

Salicylic acid	6 Gm.
Light liquid petrolatum	5 cc.
Wool fat	12 cc.
White petrolatum, to make	100 cc.

Since laboratory and clinical experience indicates the efficacy of certain volatile drugs in inhibiting the growth of the responsible tinea organisms, phenyl salicylate, thymol, chloral hydrate, menthol and camphor to no more than a total of 2 per cent may be incorporated in the salicylic acid ointment formula.

Ringworm of the toes and toe spaces with denudation of the skin does not require the keratolytic action of salicylic acid. Antiseptics are needed and a liquid is preferable to an ointment. The following solution is suggested:

Tincture of aconite N.F.	20 cc.
Tincture of iodine U.S.P.	30 cc.
Alcohol, to make	100 cc.

Prevention of reinfection is a definite part of the therapeutic regimen; the following preventive powder being given:

Phenyl salicylate	1 Gm.
Chloral hydrate	1 Gm.
Sterilized purified siliceous earth, to make	100 Gm.

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FACE AND HAND LOTIONS: Isopropyl Alcohol evaporates slowly, has little tendency to dry the skin, and aids in keeping the skin soft.

AFTER SHAVE LOTION: Isopropyl Alcohol is excellent for this product because it aids the after-cooling and skin-freshening qualities of the lotion.

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ADVANCING THERAPY

B VITAMINS AND BLOOD

It appears that at least two members of the vitamin B complex, riboflavin and niacin, are intimately associated with the production and regeneration of the blood, according to reports in the *Journal of Biological Chemistry* (as reviewed in *Science* for Feb. 4, 1944.)

C. A. Elvehjem and his associates found that a stunting of the red blood cells, with a consequent mild anemia, results from a synthetic diet deficient in riboflavin. This type of anemia, produced in dogs, is the direct result of riboflavin deficiency and readily responds to adequate amounts of the vitamin. The results of these experiments indicate that there is a competitive need for riboflavin in growth and hemoglobin production.

The findings of P. Handler and W. P. Featherston appear to confirm the suspicion that anemia, at least the form found in pellagrins, is associated with niacin deficiency. The experimental work showed that the anemia produced in pellagrous dogs is specifically due to niacin deficiency and that it can be corrected only by the administration of adequate amounts of this vitamin.

PENICILLIN IN DENTISTRY

Because penicillin combines to an extraordinary degree the two most desirable properties of a therapeutic agent: low toxicity to host cells and a powerful bacteriostatic action, I. R. Cipes (*J. Am. Dental Assoc.* 31:201, 1944) believes that there are several salient features of penicillin therapy which make it particularly applicable to dental use. Among these are its potency against sulfonamide-resistant bacteria, especially the staphylococcus; its activity in the presence of serum and pus; its successful use in treating closed cavities and sinuses and other cases analogous to those found in dental disease, its action on lactobacilli; and, its ability to act when applied topically.

All these features indicate that penicillin will have a prominent place in the drug armamentarium of the dentist, and it is reasonable to assume that such dental disorders as periodontoclasia, osteomyelitis, Vincent's infection, apical granuloma and dry socket infections will be successfully treated with this drug.

COOKING AND B VITAMIN LOSSES

The frequent need for vitamin supplements becomes further evident in the report of H. V. Cheldelin, A. M. Woods and R. J. Williams (*J. Nutrition* 26:477, 1943) on losses of B vitamins, such as riboflavin, nicotinic acid, pantothenic acid, biotin, inositol and folic acid, in the process of cooking.

Thirty different foods were analyzed. Riboflavin was destroyed in variable amounts in the presence of light; the losses in the dark were negligible. The loss of nicotinic acid was usually slight; destruction of pantothenic acid was moderate to slight in vegetables, somewhat larger, up to one-third, in meats. Loss of biotin was moderate to negligible in vegetables and quite high in meats (up to 72 per cent). The loss of inositol was generally moderate among meats, with steamed samples only slight, and often up to 95 per cent in vegetables, especially legumes. Folic acid showed the greatest loss due to cooking. With the exception of liver and sauerkraut, which retain the bulk of their folic acid content, losses among meats range from 46 per cent in halibut to 95 per cent in pork chops; losses in vegetables range from 69 per cent in cauliflower to 97 per cent in carrots.

From this it would seem that the addition of suitable materials containing vitamin B complex components is a very logical procedure in the preparation of dietary supplements, even though the human requirements and functions of some of the factors are not yet fully established.

AIR STERILIZATION WITH GLYCOLS

In a report in the *Journal of Experimental Medicine* (78:387, 1943), T. T. Puck, O. H. Robertson and H. M. Lemon state that pneumococci, hemolytic streptococci, staphylococci, Haemophilus influenzae and other organisms, as well as influenza virus, when sprayed into atmospheres containing propylene glycol vapors were killed so rapidly that no micro-organisms or virus could be recovered from the test chamber. Propylene and triethylene glycols are relatively nontoxic and in vapor form are odorless, tasteless and nonirritating to the respiratory mucosa.

In studying the factors which influence or limit the action of the propylene glycol vapor, they found that the killing was more effective when both the total number of air borne droplets and the number of organisms in the bacterial suspension were small. A temperature below 80 F. and an atmospheric relative humidity between 45 and 70 per cent were found to constitute the most favorable conditions for the lethal action of the vapor. Equally strong bactericidal action was obtained when propylene glycol was dispersed in an 800 cubic foot room as occurred in chambers of 2 cubic foot capacity. The minimum glycol concentration necessary for effective bactericidal action on various microorganisms was as follows: Pneumococci were killed by amounts of propylene glycol as low as 1 Gm. in 20 million cc. of air; concentrations of 1 to 5 million to 1 to 10 million were required to produce the same degree of killing of streptococci and staphylococci.

ISINGLASS AS A BLOOD SUBSTITUTE

Because they feel that the need may arise when blood derivatives may not be available in sufficient quantities, N. B. Taylor and M. S. Moorehouse (*Canadian M.A.J.* 49:251, 1943) have continued their work with isinglass as a blood substitute. This collagen, produced from swim bladders of fish, as now prepared, has a relatively mild pyrogenic action but the temperature rise is well within the limits specified in the pyrogen test of the United States Department of Public Health. Isinglass is free from antigenic action. No abnormalties have been observed in the livers and kidneys of animals which have received repeated injections of isinglass intravenously over a period of weeks. The regeneration of plasma protein after depletion caused by acute hemorrhage does not appear to be interfered with by the transfusion of isinglass solution.

Clinical tests with the purified, powdered isinglass were made by H. E. Pugsley and R. F. Farquharson (*ibid.* p. 262). A total of 58 intravenous administrations was given chiefly for the purpose of detecting pyrogenic or toxic effects. A febrile reaction followed in 8 instances, but in no case did the fever

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last more than a few hours. The remaining infusions produced no unfavorable reactions. Ten patients suffering from the effects of shock or severe circulatory collapse were treated by the intravenous administration of isinglass solution. All patients responded favorably; there was no evidence that the isinglass had given rise to toxic manifestations.

SODIUM LACTATE IN SHOCK

Because recent events have shown the relatively high mortality from severe burns even when large amounts of plasma are used and because recent investigations suggest that the intravenous administration of plasma does not invariably correct the hemo-concentration following severe burns, C. L. Fox, Jr. (*J.A.M.A.* 124:207, 1944) studied the effects of oral sodium lactate in the treatment of burn shock.

His preliminary report describes the results obtained from the use of isotonic sodium lactate administered by mouth, instead of plasma intravenously, in combating the shock phase in severe, extensive, third degree burns. Since there was but one death in 17 cases of full thickness burns, Fox feels the results were so successful as to warrant extensive trial of the method. In his opinion the fact that extensively and severely burned patients survived and recovered after the oral administration of isotonic sodium lactate instead of the intravenous injection of plasma proves that correction of the sodium imbalance is of major importance.

Simplification in the treatment of patients is stressed when this procedure is employed. Intravenous therapy is dispersed with and the medical staff and nurses are relieved of this burden. The sodium lactate costs but a few cents and the hospital supplies of blood and plasma are conserved. The problems of sterile solutions are eliminated.

Once conclusively demonstrated as efficacious by extensive tests, the advantages of such therapy in military medicine becomes quite evident. For the present at least, says Fox, the emergency use of this method under conditions in which plasma is not available seems clearly indicated.

TREATMENT OF SURFACE BURNS

G. H. A. Clowes, Jr., C. C. Lund and S. M. Levenson (*Am. Surg.* 118:761, 1943) in a study of 150 cases of surface burns made a comparison of the results of treatment following applications of ointment gauze dressings, tannic acid-silver nitrate, and triple dye. Skin healing of second degree burns of all areas except the back took place a few days earlier if ointment of triple dye was used than if tannic acid was used. Skin healing of second degree burns of the back took place a few days earlier if petrolatum gauze or boric acid ointment was used for treatment than if either tannic acid-silver nitrate or triple dye was used. Skin healing of second degree burns of the face was faster and of the back slower than of all other parts of the body.

Statistical evaluations suggest, but do not fully establish, that petrolatum gauze and triple dye treatment were safer for large third degree burns than treatment with tannic acid-silver nitrate. Areas treated with petrolatum gauze became free from slough and were grafted earlier than areas treated with the other two methods.

POISON IVY TREATMENT

S. W. French and L. J. Halpin (*Mil. Surgeon* 93:275, 1943) report that good results have been obtained by using an alcoholic extract of the poison ivy leaves in active treatment. Briefly, the extract is prepared as follows: A person known to be non-sensitive (or one adequately protected) is detailed to pick a large quantity of poison ivy stems and leaves. These are then hung from a rafter in a warm dry place, or the leaves are collected and placed in a drying oven When the leaves are sufficiently dry to permit pulverizing between the fingers, 10 Gm. are weighed and placed in an absolutely dry flask, to which is then added 200 ml. of absolute ethyl alcohol. At the end of 48 hours, filtration through double thickness filter paper into absolutely dry vaccine bottles completes the extraction. It is emphasized that all containers must be absolutely dry and that the extracting agent be absolute alcohol.

By using absolute alcohol, and practicing great care to have only dry flasks and vials, the extract will remain a brilliant green and retain its effectiveness for an indefinite period of time. This extract is then considered as the master extract and is administered in active treatment as follows: This 5 per cent extract must be diluted 1-10 just prior to each individual injection. Sterile normal saline is used as a diluent. Daily injections of this diluted solution are administered in a dosage beginning with 0.1 ml. followed by gradual daily increases to 0.4 ml.

Of a total of 1,851 patients with poison ivy treated with this extract, 86 per cent received distinct benefit, while only 14 per cent failed to respond to the therapy.

DILUTE HCL AS A GERMICIDE

In a report in the *Archives of Surgery* (47:468, 1943), E. Meyer and E. E. Vicher have evaluated the effect of a 0.5 per cent solution of hydrochloric acid on the bacterial flora of the hands and arms and compared it with the effect of a solution containing 70 per cent of alcohol by volume and that of a 10 per cent solution of aluminum and potassium sulfate. Alcohol in a concentration of 70 per cent by volume was found to be an efficient germicidal agent for the bacterial flora of the skin. A 0.5 per cent solution of hydrochloric acid was found to be highly efficient also but not entirely comparable to the alcohol. Aluminum and potassium sulfate in 10 per cent acqueous solution evidently hardens the skin to such an extent that the organisms are imprisoned but not killed.

These workers are of the opinion that either alcohol 70 per cent by volume or hydrochloric acid 0.5 per cent is sufficiently efficient to use in the presurgical preparation of the surgeon's hands and that a 0.5 per cent solution of hydrochloric acid could safely be used so as to conserve the supply of alcohol for more essential purposes. They also believe that a 0.5 per cent solution of hydrochloric acid has a true germicidal action on the bacterial flora of the skin.

DICUMAROL EVALUATION

In a clinical report of eighteen cases, H. D. Zucker (*J.A.M.A.* 124:217, 1944) presents his experiences and tentative indications for dicumarol, the new synthetic, orally-administered anticoagulant. Although more cases must be studied before definite views can be stated, dicumarol seems to have a beneficial effect in cases of thrombosis and embolism, as evidenced by disappearance of pain and lengthening of the blood clotting (prothrombin) time. While dicumarol cannot replace heparin in emergencies demanding anticoagulant therapy, nor serve as an alternative to medicated surgical intervention, Zucker feels that dicumarol will find its principal use in the prophylaxis of thrombosis and embolism and in the treatment of thrombophlebitis.

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PURCHASING DEPARTMENT

FINE CHEMICALS

The volume of drugs and fine chemicals moving into consuming channels continued at the high rate characteristic of this market for a long time. The lack of price changes during the period under review would indicate effective OPA regulation and the voluntary cooperation of producers. What is said to be the largest alcohol plant in the world went into operation at Omaha. The plant has an estimated capacity of 17,500,000 gallons of alcohol per year to be distilled from about 6,500,000 bushels of grain.

The trade is anxiously awaiting an announcement by the OPA which will establish a dollars and cents ceiling on USP menthol. It is believed that the ceiling, if established, will be at about $18.25 per pound, duty paid. Should the ceiling be established at this level, it is quite likely that this will create some pressure in Brazil to bring the minimum export price of $29 per kilo to a level more in line with the selling price here.

Up to the present time, individual ceilings have prevailed, the maximum figures being established on the basis of actual costs. Any adjustments in ceilings or the floor price in Brazil will fail to have the slighetst effect upon the current spot position which is extremely firm.

Recent inquiries have failed to uncover a single pound of USP material for immediate delivery and since menthol from the new mint crop in Brazil is late in coming through, it is quite likely the acute shortage will continue over the remainder of the heavy consuming season.

Synthetic menthol which resembles natural menthol in its chemical structure can be produced commercially from thymol. Drs. H. B. Hass and A. L. Barney of Purdue University developed the new method of producing menthol artificially.

The synthetic menthol has the same taste and odor as natural menthol, they report to the American Chemical Society, and pharmaceutical differences, if any, are slight. The new process is one of distillation, beginning with thymol hydrogenated to a complex mixture of

(*Continued on page 337*)

FEBRUARY PRICE CHANGES

UP

Anethol 15c
Apricot kernel oil 11c
Cajuput oil 10c
Cedar wood oil 5c
Citral 25c
Citronella oil Ceylon 5c
Ergot 20c
Golden seal root 25c
Heliotropin 15c
Horehound herb 1c
Lemon grass oil 30c
Safrol 5c
Sassafras bark 15c
Savin oil $3
Spruce oil 5c
Vanilla beans Bourbon $1
White pine bark rossed 4c

DOWN

Bois de Rose Brazil 65c
Colocynth pulp 5c
Dill oil 35c
Kamala 3c
Lycopodium $1
Pine needle oil 25c

• Prices quoted in this section were current on the first of this month.

BOTANICALS

The volume of business done in botanicals during the current trading period was reported out of proportion to the available supply. Dealers carefully combed the domestic primary market as well as foreign sources still open to trading, in an endeavor to effect replacements. Some arrivals of gum karaya and olibanum gum were noted but the spot market was in a position where these replacements failed to make a material change in either the price or supply situation. Domestic botanicals such as goldenseal root, select sassafras bark, serpentaria root, rossed white pine bark, thin natural wild cherry bark were scarce and higher. In the country prices were asked which, in some cases were higher than the present spot market.

(*Continued on page 339*)

ESSENTIAL OILS

All dealers in essential oils and aromatic materials reported a generally active market during the current trading period. Most commodities were scarce with the result that there was a good call for substitutes. Some importations of citronella, lemongrass, distilled lime oil, and sandalwood billets, were noted. Resumption of mail service to occupied Italy by the United States was construed favorably by importers who felt that at least contact could be made with primary suppliers of such items as bergamot, lemon and orange oils.

The supply position of anise oil was said to be such that consumers could purchase only in the smallest quantities. Prices ranged from $3.75 to $4. Resumption of mail contact with Reggio di Calabria, primary Italian production point for bergamot oil, was an encouraging development. Brazil has made an effort to produce bergamot oil but no material of an interesting quality has as yet been forthcoming. In the meantime spot stocks are nonexistant and the market is strictly nominal at $25 per pound.

It is reported that shipments of bois de rose are on the way here at costs likely to be reflected in local prices eventually. Brazil is the chief source of this oil used rather extensively by soapmakers and also in the manufacture of linalyl acetate. For some time bois de rose could not be imported into this country. Primary market labor was directed to the production of rubber. Import restrictions, however, have now been lifted, licenses are being granted, and the outlook for 1944 is better. Spot prices were favorable at from $5.10 to $5.25 per pound.

The price of Ceylon citronella oil was firmly maintained at from $1 to $1.10 per pound. About 30 drums of oil arrived in this market recently at prices slightly in advance of those prevailing on previous business. No dill oil has come from foreign sources of supply for some time. Spot supplies now consist mainly of weed oil produced in this country. Weed oil prices ranged from $5.15 to $6 per pound.

(*Continued on page 341*)

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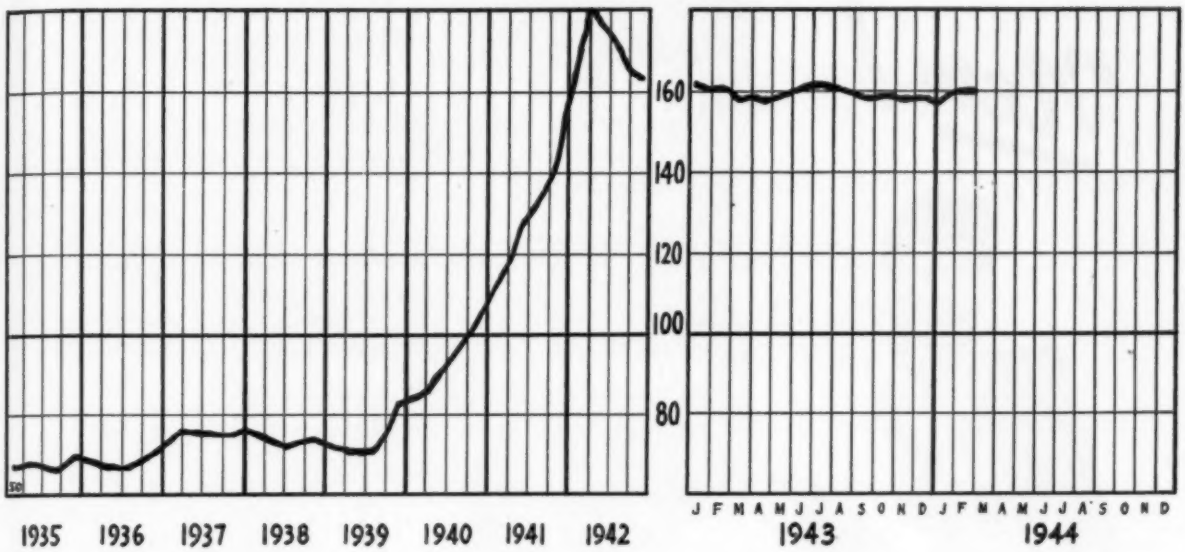
50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for February, 1944, declined fractionally to 160.6 from the previous 160.7.

FINE CHEMICALS

(*Continued from page 335*)

alcohols and ketones. Menthone is produced first, and this is then reduced to synthetic menthol. Thymol is found in oil of thyme, of which there is no particular shortage at the present time.

A reduction of $100 per kilo has been made in the price of calcium pantothenate, the commercial form of panthothenic acid a synthesized member of the vitamin B complex. The new price is $150 per kilo and is fully in keeping with the policy of passing along savings realized in manufacturing costs as the result of an increased consumption.

The firmer trend in mercury is rather surprising in the face of a narrow demand for the metal. With a growing realization that less metal will be produced in the months ahead many holders now seem content to mark time believing that there will be a general readjustment in the position of the market as the result of a curtailed output. Spot metal is now generally quoted at $132.50 to $135 per flask.

An agreement for purchasing the surplus supply of Puerto Rican blackstrap molasses at 13.6 cents per gallon, to be shipped to the United States for conversion into high-proof alcohol, was signed by the Defense Supplies Corp. Jan. 29. This covers about 18,000,000 gallons; 20,500,000 gallons had previously been sold, with an escalator clause increasing the price to the level finally decided upon.

The United States has also agreed to buy 65,000,000 gallons of Cuban blackstrap molasses, as a result of negotiations held in Havana. Import restrictions on Cuban rum and gin are expected to limit production and divert blackstrap to industrial alcohol.

Further arrivals of castor oil raw material were noted. The latest landing totaled 3,385,950 pounds, bringing the total since January 1 to 42,953,900 pounds. Plentiful raw material makes for ample stocks of castor oil which continued to move without restrictions.

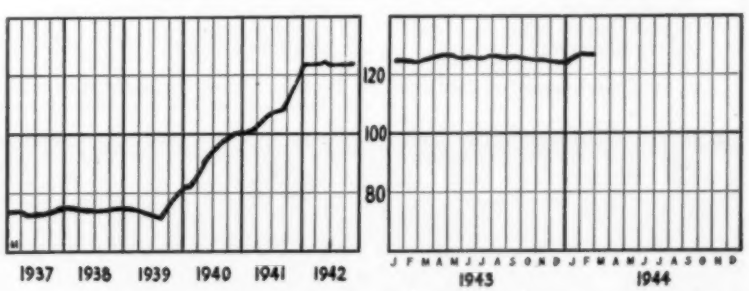
Production of camphor is far in advance of its prewar volume and national needs can now be filled from domestic synthetic output. In 1939 the total imports of all grades of camphor totaled 2,505,967 pounds. Present production of synthetic camphor is said to be at least equal to requirements.

The supply situation on glycerin is now substantially relieved at all points and a more liberal release to a greater variety of manufacturing consumers is indicated. Prices remain basically unchanged at 18¼c carlots in drums, 18¾c less than carlots in drums.

CAFFEINE

Caffeine is produced by at least eight Brazilian firms. The principal producer and the only one which extracts caffeine from cocoa press cake is a company in Sao Paulo. In mid-1943 this establishment reported monthly production of caffeine at 18,000 kilograms, while the output of all other producers was less than 40 per cent of this amount. A considerable quantity of its production was shipped to Argentina.

15 Medicinal Chemicals—Weighted Price Index 1926=100



The medicinal chemical index declined to 128.0 from the previous 128.2. This was occasioned by the drop in mercury prices.

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ERGOT OF RYE
FENNEL SEED, Indian
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GENTIAN ROOT
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GRAINS OF PARADISE
GUM ARABIC AMBER SORTS
GUM KARAYA
HELLEBORE ROOT WHITE
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HERBE MENTHE
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IRISH MOSS
JUNIPER BERRIES
KAMALA POWDER
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MARJORAM LEAVES
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ORRIS ROOT
PEPPERMINT OIL
PIMENTO, Jamaica
POPPY SEED, Indian
PSYLLIUM SEED AND HUSKS
QUINCE SEED
RHUBARB ROOT
ROSEMARY LEAVES
ROSEMARY OIL
SAGE LEAVES
SARSAPARILLA ROOT
SAVIN OIL
SAVORY
SENNA LEAVES AND PODS
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STROPHANTUS SEED
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BOTANICALS

(Continued from page 335)

Spot supply of blood root is exhausted and dealers report that they are unable to locate any supplies in the country. Developments in cascara bark are being followed closely. Like that of a great many other domestic botanicals the general position is extremely firm with much uncertainty prevailing regarding replacements because of the labor shortage.

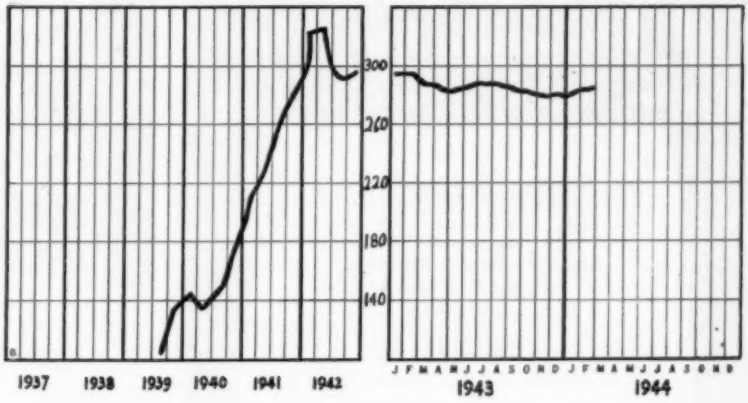
Extract manufacturers can expect to pay fancy prices for vanilla beans if the hundred tons or more of Bourbon beans fail to arrive from Madagascar. Representatives of the French Colonial Government are still confident some way will be found to ship the beans to this country, but as far as is known the goods purchased many weeks ago have not as yet left the island. Spot prices on Bourbon beans have been moved upward to $9.25 to $10 per pound. Quotations in Mexico are firm. No new crop cut beans can reach this market until April, and it will probably be several months later before Mexican whole beans begin to arrive.

No shortage of chamomile flowers is indicated. Fortunately South American sources have done well in supply this market. Only African orris root is available here. Importers are encouraged by developments in Italy, however, and again look forward to receiving the Verona and Florentine varieties.

An ample supply of ergot is available on spot. Holdings, however, are in very firm hands whose disposition is to protect the price position at present levels of from $1.40 to $1.45 per pound. Although there was comparatively little trading in goldenseal root during the past month stocks were sufficiently small to warrant an advance in price. Whole root is now offered at from $6 to $6.25 a pound and powder at from $6.25 to $6.50.

Practically no USP rhubarb is offered for sale here. The largest source of supply for this material has been China. India is now supplying rhubarb but it is not offered as USP quality. Supplies of kamala continued to arrive in this market in quantity. Spot prices responded and the item was marked down to from 42c to 45c per pound. Arnica flowers were practically nominal at $3.25 per pound. The acute shortage cannot possibly be relieved for some time.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index advanced to 283.3 from the previous 282.4. This was occasioned by a rise of 20 cents per pound in the price of ergot.

Importations of papain have been favorable for some time. The undertone of the market is easy. This market will probably carry over the smallest supply of senega root in years. Since most stocks originate in Canada, there is doubt concerning the ceiling position of the material. On root of domestic origin there is no ceiling now.

GUM ALOE

Unofficial estimates on the production of gum aloes in the Netherlands West Indies for the last quarter of 1943 place the amount at 200 cases. Stocks on hand decreased by 500 cases during the quarter, dropping from 1,900 at the close of September to 1,400 cases as of December 31, 1943. During the last 3 months of 1943, 700 cases of gum aloes were shipped.

Market prices declined somewhat during the last quarter of 1943 and merchants report that the future outlook is dubious, since lack of rainfall probably will cause delay in the collection of this year's crop.

MINT PRODUCTION IN BRAZIL

The area planted in mint (peppermint) in Sao Paulo, Brazil, is 15,000 acres, seven times as large as that planted a year ago. Planting, which should have been completed in November, was still going on the last week in January. owing to lack of rain.

The first cutting of the mint crop began about the middle of January and was expected to continue until the last of February. The same plants should yield again in March and early April.

Because inexperienced growers are extracting oil from the plants and crude methods of separating the oil from the water are being employed, the yield is expected to average only 60 kilograms per 6 acres, which is lower than was expected earlier in the year. The yearly yield may be slightly higher than this.

An area of 160 to 300 acres is reported to be planted to mint in northern Parana, where the yield is expected to be higher than in Sao Paulo.

EUCALYPTUS OIL

The restrictions on exports and the limitations imposed by manpower have adversely affected the eucalyptus oil industry in Australia. Exports since 1938 are given below and indicate the marked drop in the last period reported:

Year	*Gallons*
1938-1939	134,207
1939-1940	164,971
1940-1941	184,175
1941-1942	190,192
1942-1943	51,945

These exports were made up of 65-70% medicinal oil and 30-35% industrial oils prior to the control on the export of Eucalyptus dives oil.

The future of the industry depends upon the extent to which new areas are developed, but essentially upon the conservation of the principal oil yielding species, such as Eucalyptus dives and Eucalyptus Australiana.

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ESSENTIAL OILS

(*Continued from page 335*)

Where lavender oil is available in countries other than France, dealers have had difficulty in obtaining shipment. Spike lavender oil is obtainable in satisfactory quantity but the flower oil is now quite limited and what is available is mostly of the lower grades. Importers who have been doing business in Italian lemon oil are encouraged over the resumption of United States mail service with Sicily. A good market for this oil is anticipated when, as, and if shipping space becomes available.

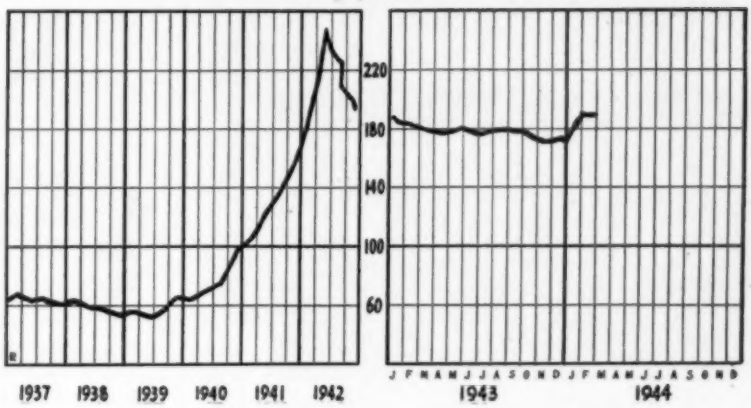
Lemongrass oil produced in Florida has aided considerably in alleviating the shortage during the period in which shipping from India was critical. Importations of 18 drums of lemongrass was reported during the past month at the higher basis reported recently. On spot the market ranged from $1.35 to $1.60 a pound.

The situation in peppermint oil is still confused. Spot stocks are low because dealers cannot pay the primary market prices and still do a distribution job. Farmers still refused prices which dealers were able to pay. As a matter of fact present price ideas of farmers are far above what OPA seems inclined to grant and since it is getting close to the time when mint farmers will put the 1944 crop in the ground something must happen soon. Unless the OPA takes steps to increase maximum prices on mint oils, farmers are likely to turn their attention to other crops. Under present circumstances it is not likely that there will be any increase in mint acreage this year. Only those manufacturers who paid primary market asking prices have adequate stocks of this oil.

If the situation in peppermint oil is difficult, it is almost impossible in spearmint oil. The replacement situation is bad and local transactions have practically stopped. Unsold stocks in dealers hands are being held for higher prices.

Oils which will probably be extremely scarce in 1944, or even unobtainable, are jasmin, hyacinth, narcissus and other flower oils which came from France, also lavender and lavandin from that country. Europe's other oils such as bergamot, orris root from Italy, Bulgarian rose, and oakmoss from Jugoslavia, are also likely to continue scarce for some time. This condition also applies to Japanese products and for those commodities which are characteristic of lands now under Japanese control. Citronella Java, oil of patchouli, vetivert, camphor oils, etc. are and will continue tight this year.

15 Essential Oils—Weighted Price Index. 1926=100.



The essential oil index advanced fractionally to 184.4 from the previous 184.3. Citronella oil Ceylon was up 5 cents a pound to $1. Bois de Rose dropped to $5.10.

CHILE

Chile is studying possible means of enlarging its essential oils production, states a foreign journal. It is believed by specialists in that country that Chile can produce certain essential oils which can be used in the drug, cosmetic, and perfume trade to such an extent that not only will domestic demands be supplied, but an exportable surplus will be available as well.

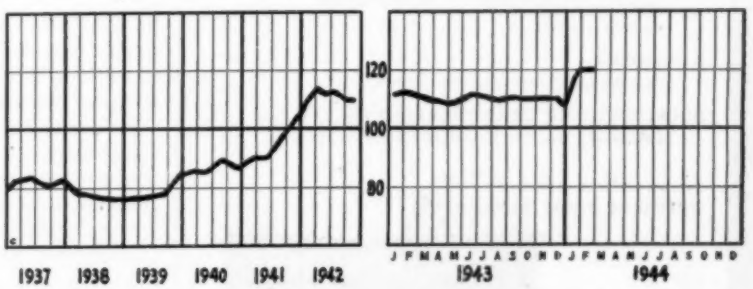
The Corporation for the development of Production already has granted loans to those who desire to plant medicinal plants and produce essential oils.

Thus far, though cultivated in Chile, mint and lavender are not being grown in quantities sufficient to meet domestic requirements. Pine and eucalyptus oils, however, are being exported in small quantities. Purethrum, poppyseed, saffron, rue, sage, and quillaî bark have been found adaptable to Chilean climate and soil. In the case of quillai bark, about 2,700 tons were shipped from Chile before the war. Germany was the largest recipient.

VITAMINS

The following vitamins were reduced in price during the current trading period. The new schedules are quoted: Acid ascorbic USP XII $27 per kilo in 30 kilo drums. Riboflavin UPS XII (vitamin B_2) 38c per gram in 1 gram bottle. Niacin USP XII (acid nicotinic) $7 per kilo in 50 kilo drum. Thiamine hydrochloride USP XII (vitamin B_1) 31c per gram in 1 gram bottle.

25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index remained without change at 114.3. There were no price fluctuations in the items making up this group.

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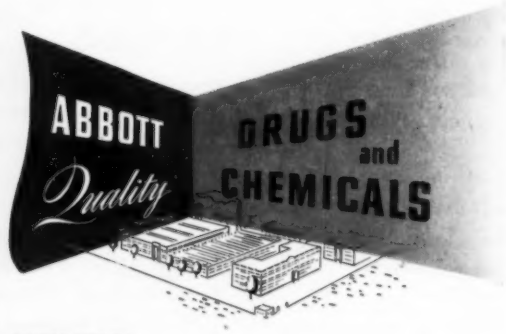

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READERS'

NON-SEPARATING HAND LOTION: Can you supply us with a suggested formula for a hand lotion which will not separate? Bradley Beach, N. J.

The following formula will, I think, meet with your requirements. However, I would suggest that in the preparation of any hand lotion a preliminary shelf test of several weeks at least should be made before trying to market any cosmetic of this type.

Stearic acid	3.15%
Glycerin	6.0 %
Potassium hydroxide	0.15%
Water	79.3 %
Alcohol	8.5 %
Perfume	0.5 %
Quince seed	2.25%
Preservative	0.15%

Dissolve the potassium hydroxide in one-third of the water and add the glycerin. Bring the rest of the water to a temperature of 80° C.; add the quince seed and soak for six hours and strain through muslin. Melt the stearic acid, dissolve the perfume in the alcohol; add to the hot potassium hydroxide solution, the melted stearic acid and boil for a minute. Allow the temperature to drop to about 70° C. and then stir it into the quince seed mucilage. Stir occasionally until cool, then slowly add the alcohol, preservative and perfume. Note: a clearer mucilage is obtained if it is made cold by soaking the seeds overnight. In this case the preservative should be dissolved in the water first.

HAIR CONDITIONING OIL: We would like to produce a better hair conditioning oil for the hair than the one we now manufacture. This is an oil which we recommend that a woman apply to her hair the evening before she intends to shampoo her hair or have it shampooed at the beauty parlor. Could you suggest a formula that we might use? Hollywood.

Since you do not give us any information on the type of hair conditioner you now use, it is obviously impossible for me to make any specific suggestions as to improvements. However, a typical formula for a fatty hair conditioner is made as follows:

Lanolin	4.0	Gm.
Diglycol stearate	15.0	"
Triethanolamine stearate	3.0	"
Cholesterin	0.5	"
Lecithin, vegetable	0.5	"
Peanut oil	6.5	"
Methyl p-hydroxybenzoate	0.25	"
Distilled water	70.25	"

This type of pack is warmed very carefully before application and is allowed to remain in contact with the hair and scalp for a reasonable period before being washed out. For

QUESTIONS

home use it is best applied in the early part of the evening and washed out carefully with a good neutral shampoo before retiring.

However, brilliantines are often used for the same purpose. These are applied to the thoroughly moistened hair and kept warm either by radiant heat or the use of hot towels. Vegetable oil brilliantines are especially useful for this purpose. The following is an example:

Olive oil	45.0 %
Sweet almond oil	48.95%
Castor oil	5.0 %
Parahydroxybenzoic acid ester	0.05%
Perfume	1.0 %

Dissolve the parahydroxybenzoic acid ester and the perfume in the alcohol; then mix in the sweet almond oil. Mix the olive and castor oils and add the sweet almond oil mixture. Allow to stand for three days and filter.

OILY NAIL POLISH REMOVER: We should like to know if you can recommend a formula for a good oily nail polish remover. If at all possible, it should consist of materials which can be easily obtained at present. Miami.

The following standard preparations should meet your requirements, but as to the availability of all the raw materials, that is open to question, since the picture changes from day to day.

Castor oil	10.0%
Dibutyl phthalate	40.0%
Ethyl acetate	30.0%

As an alternate, try the following:

Glycol methyl ether	97.0%
Peanut oil	2.5%
Perfume	0.5%

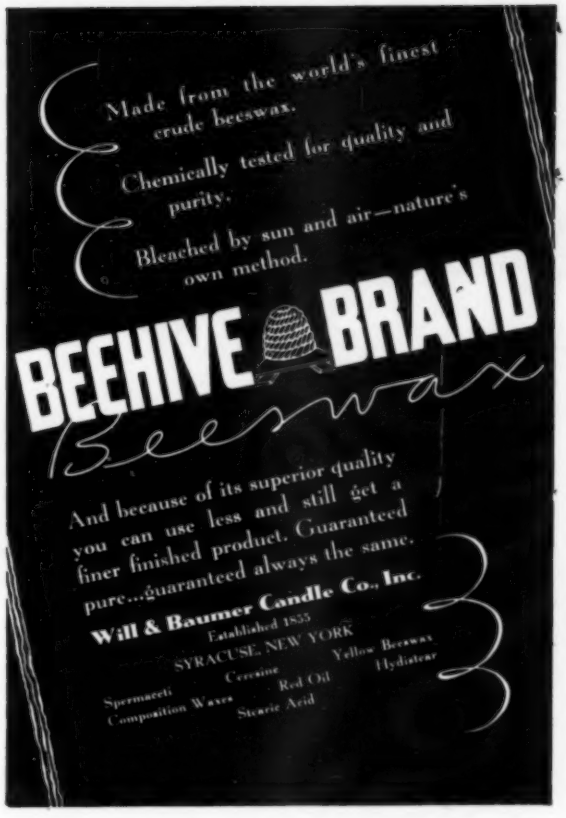
SUPPOSITORIES: In the January 1944 issue of Drug and Cosmetic Industry, *page 109, you print a formula for suppositories containing cod liver oil. We are interested to know how many suppositories this formula represents. Philadelphia.*

According to the U.S.P., rectal suppositories are usually made to weigh about 2 grams each. Therefore, the formula, based on a total of 10 grams of material, would represent approximately 5 suppositories.

HAND PROTECTING CREAM: Will you please send me formulas for hand protecting creams? Thank you for your trouble. Edmonton, Canada.

You will find that a quite complete discussion on this subject appeared in the December 1943 issue of Drug and Cosmetic Industry, starting on page 630. This will provide formulas to meet varying conditions where protective creams are indicated. However, a so-called general purpose protective cream can be made from the following:

Stearic acid	12 parts
Lanolin	3 parts
Glycerine	6 parts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Water	50 parts

VITAMIN B COMPLEX ELIXIR: As a subscriber to your magazine, may I ask you to supply me with a formula for iron to be incorporated into Elixir B Complex, and the iron to be compatible with the latter. New York City.

I am afraid that I cannot give you very much information with regard to a formula for an iron preparation to be incorporated into Elixir B Complex. The problem is under investigation in some of the largest pharmaceutical laboratories. At present most iron and vitamin combinations are put up in tablet form, where the question of compatibility does not enter as is the case in an elixir.

NON-GREASY HAIR DRESSING: Can you give me a formula for a hair dressing that is not too greasy and serves to give the hair a well groomed appearance? New York City.

A greaseless hair dressing (brilliantine) that should meet your requirements can be made from:

Glycerin	40.0%
Alcohol	40.0%
Water	19.0%
Perfume	1.0%

HAIR STRAIGHTENERS: One of our friends in England is interested in obtaining a formula from which to make a preparation for straightening human hair with kinky tendency. Can you help out—we'd appreciate it very much if you could supply formulas? Chicago.

The following formulas may help to solve your inquirer's problem:

Wax Type Hair Straightener

Beef tallow, strained	70.0%
White beeswax	15.0%
Odorless castor oil	14.0%
Perfume	1.0%

Melt the beeswax and the tallow, stir in the castor oil and the perfume.

Gum Type Hair Straightener

Glycerin	12.0 %
Powdered soap	12.0 %
Mucilage of tragacanth 2%	50.0 %
Beeswax	25.65%
Perfume	0.25%
Methyl parahydroxybenzoate	0.1 %

Add glycerin, soap, perfume and preservative to the mucilage, mix well and heat. Add melted beeswax.

INSECT REPELLENTS: We are very much interested in obtaining an insect repellent for use on humans against flies, mosquitoes, etc. Arcadia, Florida.

Recent government specifications for army insect repellents were published in the June 1943 issue of DRUG AND COSMETIC INDUSTRY, but the chief active ingredient mentioned in this formula is not available for civilian use. Therefore, I would suggest that you try the following formula which has been used successfully in the past:

Vanishing cream	94.0 parts
Oil of citronella	2.0 "
Terpenyl acetate	3.5 "
Oil of cedar leaf	0.2 "
Oil of sandalwood	0.3 "

Bases for Sulfa Drugs

(Continued from page 319)

In studies which included the bacteriostatic effect of "sulfa" drugs in various ointment bases, certain investigators[10, 11] prefer water-in-oil bases for sulfathiazole and sodium sulfathiazole. Some of their formulas[11] are listed below. Preference is stated for formulas I and II.

I

Sodium sulfathiazole	5.0
Aquaphor*	qs.

II

Sodium sulfathiazole	5.0
Petrolatum, Hydrous wool fat	equal parts
Wool fat	20.0
White wax	10.0
White petrolatum	65.0

III

Five per cent sulfathiazole or sodium sulfathiazole in:

Cod liver oil	8.75
Concentrated cod liver oil	0.15
Hydrous wool fat	5.00
Petrolatum, q.s.	30.00

In addition to improving the physical structure of the above base (cod liver oil is rich in cholesterol, an excellent emulsifier), the cod liver oil is said to be useful in promoting granulation and healing.

Other investigators[12] who combine sulfathiazole with cod liver oil in a lanolin-petrolatum base, specify that the concentration of the sulfathiazole and the oil should be 10%, respectively; however, they do not mention the proportion of the base.

Three features considered desirable in the choice of an ointment base for sulfathiazole are given[13] as follows: (1) The base itself should be non-toxic; (2) the base should be absorbent, since such a base theoretically tends to minimize the absorption of the drug by the tissues; (3) the base should permit intimate contact between the sulfathiazole and the local tissues. It is stated that an oxycholesterol-petrolatum (5% oxycholesterol, 95% petrolatum) base, more than petrolatum alone, affords this characteristic because of its hydroscopic nature. Sulfathiazole may be incorporated in this oxycholesterol-petrolatum base to the extent of at least 20%.

Keeney, *et al*[14] suggest the following formula (water-in-oil) for a sulfathiazole ointment, which is said to be equally effective in preparing ointments of sodium sulfathiazole:

Sulfathiazole (finely powdered)	5%
Hydrous wool fat, vanishing cream**	equal parts

In spite of its vanishing cream content, this formula cannot be considered a "vanishing" cream because of the large proportion of hydrous wool fat it contains.

In the treatment of 115 dermatological patients, various sulfonamides (sulfanilamide, sulfathiazole, sodium sulfathiazole, sulfadiazine) were employed in ointment form.[15] The drugs were incorporated, in strengths varying from 5 to 50%, in two different bases. Although it was stated that both of the bases used were "essentially water-in-oil emulsions," no quantitative formulas for the bases were given. The most frequently used base was said to contain diethanolamine oleate,

*Aquaphor is said to consist of "6 per cent of a group of esters and alcohols of cholesterol in aliphatic hydrocarbons." Manufactured by the Duke Laboratories, Inc., Stamford, Conn.

**The composition of this vanishing cream is not stated.

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white wax, liquid petrolatum, white petrolatum and distilled water. The preparation was compounded so that the drugs were in a suspended state, the size of the suspension approaching a colloidal one. The drugs were in solution to approximately the degree of their solubility in water (0.8% in the case of sulfanilamide and 0.1% in the case of sulfathiazole). This investigator concluded his study by recommending a 5% concentration of sulfanilamide or sulfathiazole ointment.

An ointment base quite similar to the above is also recommended by another investigator.[16] In this case the ointment base is used to suspend 5, 10 and 15% sulfathiazole powder but, here again, the proportions of the ingredients in the base are not stated.

Some other clinicians incorporated sulfanilamide, 10%, in a base composed of olive oil and hydrous wool fat. However, the proportions of the base are not stated in their report.[17]

Mention is made[18] of a 25% suspension of sulfathiazole in a base containing cholesterol, cod liver oil and lanolin. However, no mention is made of the proportions of the ingredients in the base.

A 25% sulfathiazole ointment, in an oxycholesterol-petrolatum base, is recommended.[19] Here again, the proportions of the ingredients comprising the base are not given.

A 30% sulfanilamide ointment formula is given[20] as follows:

Sulfanilamide	30.0
Oleic acid	10.0
Lanolin	60.0

Another simple water-in-oil formula[21] for sulfanilamide is as follows:

Sulfanilamide	30.0
Wool fat	46.5
Water	23.5

Anhydrous lanolin and petrolatum in certain instances, and hydrous lanolin and petrolatum in others, are examples given for bases used to prepare 5% sulfathiazole ointments.[22] The proportions of the ingredients in the bases are not stated.

Additional water-in-oil bases for sulfonamide preparations are given as follows:[23]

I

Cod liver oil	20.0
Lanolin	20.0
Petrolatum	60.0

II

White Petrolatum, Lanolin	equal parts

"Washable" Oil-in-Water Bases

It is the oil-in-water type of ointment-emulsion which is used where a "washable" ointment-like base is indicated. In addition to their ability to be "easily removed with water," oil-in-water ointment-emulsions are considered by many to be the most logical approach to formulating suitable bases for certain medicaments since they approach the ideal in consistency, color and spreading qualities, and are usually quite stable.

"Washable" bases offer the further advantage of being readily miscible with serum exudates, and therefore bring the medicament into more intimate contact with the infection.

Some of the higher alcohols (i.e., cetyl, octodecyl, stearyl, etc.) and combinations of these, may serve as excellent emul-

sifying agents to produce the "washable" ointment-emulsions in which certain medicaments may be suspended. When used with cetyl alcohol, sodium lauryl sulfate (itself a good emulsifier) acts as a "booster" to improve the emulsifying properties of cetyl alcohol. Ointment-emulsions and thick creams prepared with these agents may be removed easily from the skin surface, without agitation or irritation.

A formula which utilizes higher alcohols as the emulsifying agents to produce a "washable" ointment-emulsion is recommended[4, 24] for a preparation which is to contain 10% of tannic acid and 5% of sulfadiazine, as follows:

Cetyl alcohol	15.0
Propylene glycol	10.0
White wax	1.0
Sodium lauryl sulfate	2.0
Water	72.0

Melt the cetyl alcohol and white wax in the propylene glycol on a water bath and heat to about 65° C. Dissolve the sodium lauryl sulfate in the water and heat on the water bath to about 65° C. Slowly add the oil phase to the well-stirred water phase and continue stirring on the water bath for about 10 minutes. Remove from bath and continue stirring to the point of congealing.

The above base has been alternately placed in the freezing unit of a refrigerator and in an atmosphere at 50° C. (122° F.) at twenty-four hour intervals for a period of two weeks without affecting the general properties. No separation occurred at dry ice fusion temperature, but autoclaving at 15 pounds pressure for thirty minutes caused separation into a soft wax layer on top and a thick liquid emulsion layer underneath. Therefore, it is claimed that extreme temperatures encountered in transporting this preparation would have little effect on its value as a "washable" base. (So far as can be determined with the aid of the potentiometer and by the application of proper pH indicators, the pH of the above base is within the range of 7 to 9.)

The following formula, which also utilizes a combination of higher alcohols, is recommended[4] for a "Sulfadiazine Emulsion:"

Hexadecyl alcohol (cetyl)	6.1
Octodecyl alcohol (stenol)	6.1
Sodium lauryl sulfate	1.4
White petrolatum	13.6
Liquid petrolatum	20.5
Sulfadiazine	5.0
Water	47.3

Melt the alcohols together over a water bath at 65° C., and add the sodium lauryl sulfate and stir well. Add the white petrolatum and the liquid petrolatum, continuing the heat until the mixture is melted. Add the sulfadiazine and stir until the mixture cools to room temperature. Add the water slowly with constant stirring.

Another "washable" ointment-emulsion (employing pectin as the emulsifying agent) for a "Sulfadiazine Emulsion" is given as follows:[4]

Ringer's solution	58.0
White petrolatum	20.0
Glycerin	11.8
Sulfadiazine	5.0
Pectin	5.0
Methyl parahydroxybenzoate	0.2

Wet the pectin and the methyl parahydroxybenzoate with the glycerin, add the Ringer's solution previously heated to boiling, and stir well to make a smooth paste. Keep the mixture on a water bath and add the sulfadiazine and the white petrolatum. Remove from water bath and continue stirring until cool.

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Melting Point	36°-42° C.	47.5° C. APPROX.
Loss on Drying	None	.35 %
Ash	Not more than 0.1 %	.08 % APPROX.
Free alkalies Water soluble acids or alkalies	Neutral to litmus	NEUTRAL TO LITMUS
Chlorides		PASSES U.S.P. TEST
Ammonia	None	NONE
Glycerin	None	NONE
Petrolatum	None	PRESENT
Acid value	Not more than 2 cc. tenth normal sodium hydroxide	APPROX. 2.5 cc. TENTH NORMAL SODIUM HYDROXIDE
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In the above procedure adequate time, i.e., a standing period of at least 10 minutes, should be allowed for hydration of the pectin to take place. This should improve the stability of the emulsion.

Still another ointment-emulsion containing higher alcohols, which is said[4] to make a very satisfactory sulfadiazine preparation, is as follows:

Cetyl alcohol	10.0
Glycerin	10.0
Sodium lauryl sulfate	1.0
Sulfadiazine	5.0
Water	74.0

The possible influence of pH on the defensive processes of the skin has prompted one investigator[25] to suggest the use of ointment and cream bases which take into consideration the "acid mantle" of the skin. A general formula for such an ointment-emulsion base, employing higher alcohols, is given as follows:

Lanette wax SX*	5.0
Cetyl alcohol	10.0
Glycerin	5.0
Preservative, i.e.,	
Methyl parahydroxybenzoate	0.2
Distilled water	qs.

The above base is said to have a pH of 6.6. When measured by the electrode method, the author of the above formula claims that the skin has an approximate pH of 4.2 to 6.6, depending upon the location. (The incorporation of any of the sulfonamide drugs into this base may alter the pH slightly, but not to an important extent.)

By employing varying amounts of weak solutions of sodium phosphate and citric acid, and slightly altering the amount of ingredients, the author of the above formula containing Lanette wax SX was able to prepare bases with pH values as low as 2.6. This same worker, using other emulsifiers (glyceryl monostearate, diglycol stearate, propylene glycol stearate, glycol glyceryl stearate, propylene glycol laurate, diethylene glycol monolaurate, sorbitan monolaurate, Aerosol O.T.) prepared ointment-emulsions and creams with pH values as high as 8.

Although most of the formulas mentioned under the heading of "*Washable*" *Oil-in-Water Bases*, up to this point, have specified sulfadiazine only, very likely other "sulfa" drugs which are usually used topically may be employed in the same bases. *However, a modification of the method of incorporation of the drug and the amount of ingredients in the base used will be required here and there, chiefly because of the variation in solubility of the individual sulfonamides.*

Another oil-in-water formula containing a mixture of higher alcohols, which is considered to be quite satisfactory for a 5% sulfathiazole ointment-emulsion[6, 23, 26] is as follows:

Sulfathiazole	5.0
Sodium lauryl sulfate	1.0
Stearyl alcohol	10.0
Cetyl alcohol	3.0
Spermaceti	10.0
Glycerin	10.0
Water	61.0

In this formula glycerin may be substituted, for the water, for its anti-drying action without impairing the action of sulfathiazole.

*The emulsifier, Lanette wax SX, is not obtainable in this country; but it can be approximated by combining nine parts of cetyl alcohol flakes with one part of sodium lauryl sulfate.

A formula very similar to the one listed above, except including sodium ethyl mercurithiosalicylate (merthiolate) 0.005%, is reported[37] by another investigator.

Sulfathiazole, 1%, has been successfully incorporated[8] in the formula given directly below and higher percentages of sulfathiazole should give the same good results. This base is another example of an ointment-emulsion, of the oil-in-water type.

Sodium lauryl sulfate	0.5
Cetyl alcohol	8.0
Petrolatum alba	20.0
Water	qs.

It is stated that emulsions made with triethanolamine are distinguished by their stability and small particle size, which is an invaluable feature where an even spread or penetrating product is desired.

The following is said to be a very satisfactory sulfathiazole ointment-emulsion[38, 39] using triethanolamine as the emulsifier:

Sulfathiazole (finely powdered)	5.0
Triethanolamine	2.0
Water	24.0
Beeswax	5.0
Liquid petrolatum	64.0

Melt the beeswax in the liquid petrolatum on a water bath. Mix the triethanolamine with the water and heat to the same temperature as the petrolatum-wax mixture. Mix the sulfathiazole with the triethanolamine solution and add the petrolatum-wax mixture, stir vigorously until a creamy emulsion is obtained.

The following formula, containing triethanolamine, for a 30% ointment of sulfanilamide is recommended:[30]

Sulfanilamide powder	30.0
Cod liver oil	50.0
Oleic acid	3.0
Beeswax	2.5
Triethanolamine	1.0
Water, qs.	100.0

Two oil-in-water ointment-emulsions said to be useful[22] as bases for sulfonamide drugs are given as follows:

I

Liquid petrolatum	57.0
Peanut oil	3.0
Triethanolamine	2.0
Stearic acid	4.0
Cetyl alcohol	2.8
Water	71.2

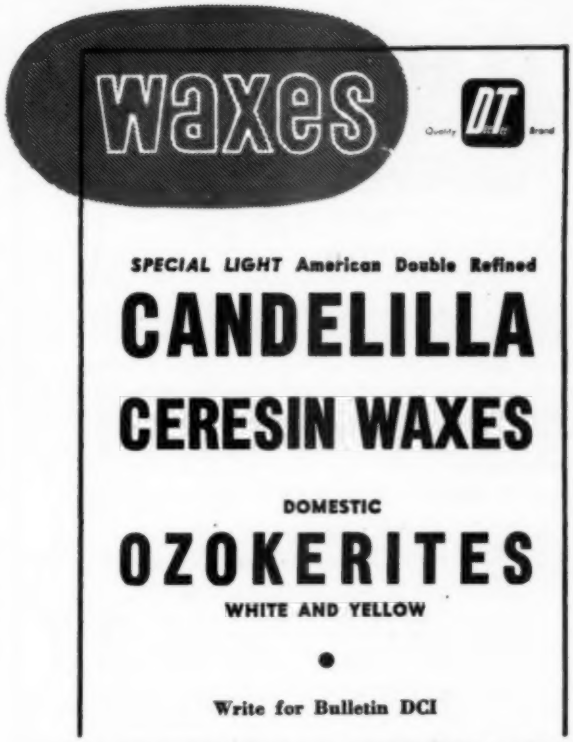
II

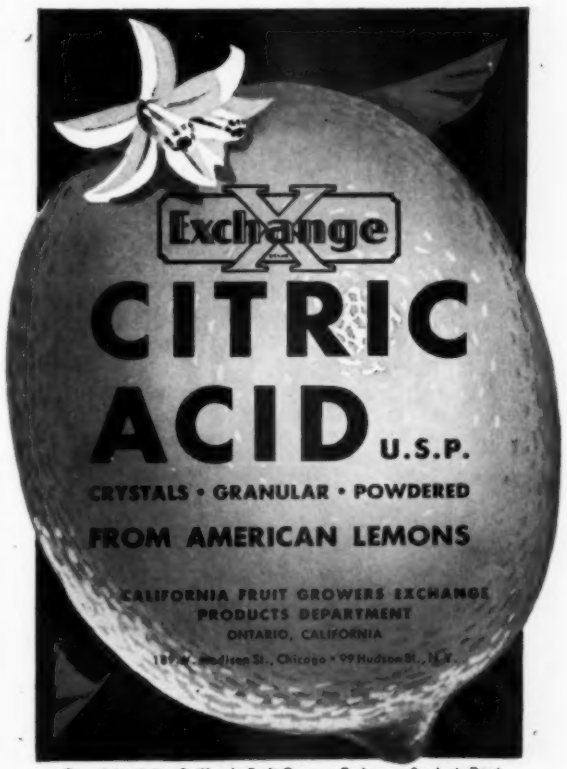
Stearyl alcohol	20.0
Mineral oil	20.0
Petrolatum	60.0
Water	20.0

According to one authority,[31] an ideal ointment base would be "one which acted with equal efficiency on dry and oily skins, which could be removed with water instead of olive oil or liquid paraffin, and which could suspend within itself water-soluble and fat-soluble chemicals and transfer them to the skin in a manner which vaseline cannot."

Sulfated Hydrogenated Castor Oil*, which may approach the above ideal, is highly recommended[32] as an ointment base. This substance is a hydrophilic ointment base, and consequently will produce an oil-in-water ointment-emulsion. It

*National Oil Products Company, Harrison, N. J.





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is claimed to be an excellent vehicle for a number of medicaments, possessing many advantages over petrolatum. Sulfated Hydrogenated Castor Oil (abbreviated SHCO) has a pH of 6, and for this reason, may be especially valuable because this is said to be the approximate pH of the skin. It is worthy of trial as a base, or partial base, for sulfonamide ointment formulas.

Admixtures of SHCO are recommended[32] chiefly for the purpose of producing a smoother, less adhesive effect. For instance, the simplest type of admixture may be made by melting 28.5 parts each of SHCO and petrolatum and adding 43 parts of water, heated to the same temperature. Agitation results in a very good emulsion which is said to be compatible with most medicaments. In preparing ointments with such an emulsified cream, in many cases, the emulsified ointment base will readily incorporate the medicament. In other cases, the medicament may be dissolved in the water, or, in the case of certain substances, incorporated first with the SHCO.

The following three oil-in-water ointment-emulsions (in addition to four fatty preparations and four aqueous preparations) were used in a study[31] of the effect of various media on the rate of absorption of sulfanilamide:

	A	*B*	*C*
Sulfanilamide	30.0	30.0	30.0
Beeswax			0.7
Cod liver oil			49.0
Liquid paraffin		28.5	
Wool fat	30.0		
Cetyl alcohol		1.4	
Oleic acid			3.6
Sodium hydroxide			0.5
Stearic acid	5.0	2.0	
Triethanolamine	2.0	1.0	
Arachis oil		1.5	
Water	33.0	35.6	16.2

The sulfanilamide formulas B and C, above, are also reported independently.[33]

VANISHING CREAM AND CREAMS

At times a vanishing cream base may be desired for the preparation of one of the sulfonamide ointments. Because of its usefulness as a stabilizing emulsifier in the formation of oil-in-water creams, glyceryl monostearate is used to prepare the following "vanishing" base:[34]

Glyceryl monostearate	12.0
Yellow wax, U.S.P.	2.0
Glycerin	6.0
Corn oil	4.0
Water, qs	100.0

Heat together until solids are melted, and stir to form a cream.

Two *cream* formulas also employing glyceryl monostearate, and said to be useful bases for sulfathiazole, are given as follows:[35]

I

Liquid petrolatum (low viscosity)	20.0
Glyceryl monostearate	12.0
Petrolatum	20.0
Water, qs	100.0

The ingredients are placed into one container and heated with constant stirring until a homogeneous mixture results. When this cools, the sulfathiazole is added.

II

Liquid petrolatum (low viscosity)	15.0
Stearic acid*	5.0
Lanolin	5.0
Glyceryl monostearate	12.0
Petrolatum	20.0
Water, qs	100.0

In an extensive study which included observations on the suitability of various bases for sulfathiazole, one of the findings of the authors[6] was that, in general, stearate "vanishing" bases produced a more satisfactory effect than did various grease bases. The formula recommended for a 5% sulfathiazole vanishing cream is as follows:

Sulfathiazole	5.0
Carbitol**	10.0
Stearic acid	20.0
Peanut oil	4.0
Potassium hydroxide	1.0
Water	60.0

In the above formula it is said that glycerin may be substituted, for the water, for its anti-drying action without impairing the action of sulfathiazole.

The following water-soluble vanishing cream base is recommended for a 3% sulfathiazole ointment:[7]

Stearic acid	1 oz.	
Glycerin	1 oz.	
Distilled water	4 oz.	6 dr.
Sodium borate		8 gr.

(*Continued on next page*)

*It is said[10] that stearic acid "apparently promotes phytochemical decomposition" of sulfanilamide.
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Potassium carbonate	16 gr.
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Melt the stearic acid on a water bath and heat to 85° C. Dissolve the alkali in the water, add the glycerin, warm the solution to 85° C., and gradually pour the warmed solution into the stearic acid, stirring briskly. Continue to stir actively and at the same temperature to assure complete saponification and absence of free alkali. Then remove the heat, and continue to stir until cold, at the same time incorporating the perfume. The cream should afterward be beaten for several hours, preferably by mechanical means.

An ointment with a vanishing cream base containing 2.5% sulfathiazole and an emulsified mixture containing 5% sulfathiazole are suggested[37] simultaneously, as follows:

	Ointment	*Emulsified Mixture*
Sulfathiazole	2.5	5.0
Chlorobutanol	0.1	0.2
Urea	10.0	
Distilled water	25.0	35.0
Vanishing cream base, qs	100.0	
Emulsifier, qs		100.0

Triturate the sulfathiazole with the chlorobutanol and the distilled water in small portion (in the ointment dissolve the urea in the distilled water) to make a smooth paste. Then add the vanishing cream base or the emulsifier, triturate well, add the balance of the water and qs. with the proper base.

The basic formulas for the vanishing cream base and the emulsifier, for the above sulfathiazole preparations, are listed as follows:

	Vanishing Cream Base	*Emulsifier*
Sodium lauryl sulfate	50.0	5.0
Acid stearic		11.0
Cetyl alcohol	125.0	12.5
Triethanolamine	125.0	5.0
Petrolatum alba	250.0	
Cocoa butter	100.0	10.0
Aqua distilled	1000.0	125.0

Melt the sodium lauryl sulfate together with the cetyl alcohol, petrolatum alba (and acid stearic). Mix the triethanolamine with the distilled water and add these to the hot mixture in small quantities with constant stirring. Then add the cocoa butter, keeping the mixture over the heat. Stir from time to time until the cocoa butter melts. Then remove from heat and stir briskly until cool. This will produce a smooth, white, fluffy mixture. The faster it is stirred while cooling, the whiter and smoother the finished product.

A further reference is made[22] to the incorporation of 5% sulfathiazole in a vanishing cream base, but the composition of the base is not stated.

Sulfanilamide, 10%, and Allantoin are combined in ointment form in the formula below. The authors[38] do not claim that the formula is the "vanishing" type. Their preference for the ointment is because of the "greaseless" character of the base. The formula (which may also be used without the Allantoin) is given as follows:

Sulfanilamide	10.0
Allantoin	2.0
Chlorobutanol	0.5
Greaseless base	qs.

The "greaseless" base in the above formula is said to consist of "glycerinated stearic acid ointment" with triethanol-

amine. The proportions of the ingredients in the base are not given.

The sulfathiazole-benzoic acid-salicylic acid formula[39] below should not be considered a true vanishing cream preparation, even though one-half of the base consists of vanishing cream.

Sulfathiazole	5.0
Benzoic acid	1.0
Salicylic acid	5.0
Lanolin	44.5
Vanishing cream*	44.5

Two water-soluble *cream* formulas for sulfanilamide are given as follows:[40]

I

Cetyl trimethyl ammonium bromide	1.0
Sulfanilamide	3.0
Castor oil	25.0
Beeswax	1.8
Wool fat	1.8
Cetyl alcohol	5.0
Glycerin	10.0
Water	52.4

Mix the castor oil, beeswax, wool fat and cetyl alcohol together at as low a temperature as possible. Dissolve the cetyl trimethyl ammonium bromide in the water with the aid of heat; mix the oil, etc., at about 60° C., and stir until set. The sulfanilamide is then rubbed up with the glycerin, and the two incorporated in the cream and thoroughly mixed.

II

Sulfanilamide	10.0
Glycerin	10.0
Castor oil	25.0
Lanette wax SX	10.0
Water	45.0

Heat the castor oil to 70° C. and add the Lanette wax SX. When the wax is completely melted, add the water (previously heated to 65° C.), with gentle stirring to avoid incorporation of air. Heat the whole to 65° C. for two hours, to kill off non-sporing pathogens. Intimately mix the sulfanilamide powder with the glycerin. Heat to 60° C. and add slowly to the cream, allowing the mixture to cool before use.

A *cream* containing soluble sulfacetamide 5% (primarily devised to economize in the use of glycerin) is given as follows:[41]

Sulfacetamide soluble	5.0
Lanette wax SX	3.0
Vitaminized oil	10.0
Distilled water	82.0

Melt the wax with the oil on a water-bath and add it to 50 parts of hot distilled water. To this mixture add a cold solution of the soluble sulfacetamide in 32 parts of the water. Stir well until a thick permanent cream is formed.

In the above formula, cottonseed oil may be substituted for the vitaminized oil. The composition of the vitaminized oil is not stated.

The following formula is described[20] as a "Sulfanilamide Cream":

Sulfanilamide	30.0
Oleic acid	10.0
Cod liver oil	60.0

A lanolin-cold cream base for sulfanilamide ointment is recommended.[42] The ointment is made from equal parts of

*The composition of this vanishing cream is not stated.

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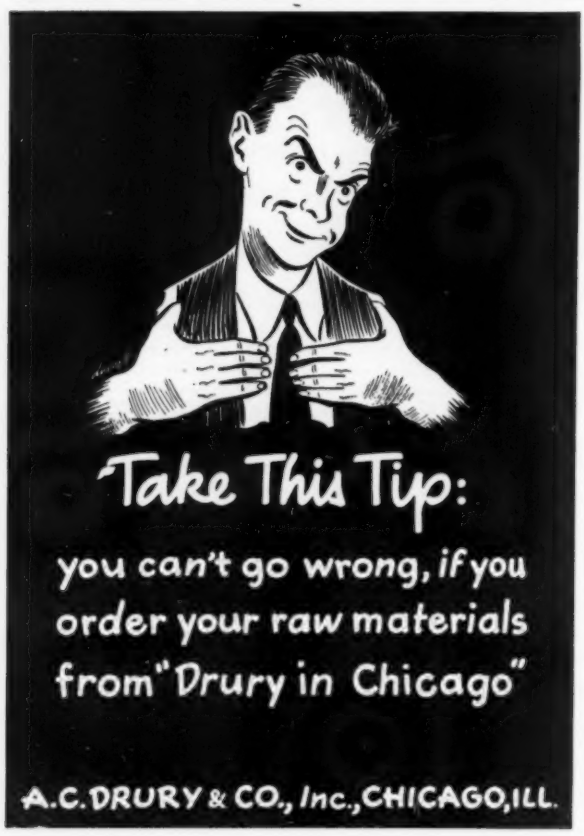

sterile lanolin and cold cream to which is added, by thorough dispersion, sterile sulfanilamide powder to a 6% concentration. The choice of an ointment which employs a "fatty" base is made by these workers because of the ability of such a base to permit very limited and slow absorption of the drug, so as to preclude the possibility of too high blood levels in, for instance, burn therapy.

Sulfanilamide incorporated in glycerin is said to be more satisfactory, in certain cases, than the newer water-soluble ointment bases.[43] The mixture, which is a supersaturated solution, or cream, is easily made by intimately combining sulfanilamide and glycerin, in the proportion of 1 to 2 drams (4 to 8 Gm.) of powdered sulfanilamide to each ounce (30 cc.) of slightly warm (not hot) glycerin. It is stated that if more powder than the glycerin will dissolve is added, though not to the degree of a stiff paste, the adherent unabsorbed powder will serve as an excellent protective dressing.

A "Sulfathiazole and Glycerin Cream" may be prepared easily by intimately mixing the sulfathiazole and the glycerin. A smooth cream results. Five to 30% of the sulfonamide drug may be used. It is stated[44] that the preparation is chemically stable and stands extremes of temperature well.

Other workers[18] describe preparations containing 30% sulfanilamide and sulfathiazole, respectively, suspended by emulsifying agents in glycerin. (The "emulsifying agents" are not identified.) The resulting cream is said to be miscible with water and serum and, therefore, easily removed with water. It is described as a white, soft, creamy paste with a pH between 6 and 7 which forms an elastic, half-dry, adherent coating when applied to the skin.

One clinician suggests[45] that fluid or semifluid preparations, including ointments, should be prepared from the sodium salts of sulfonamides and not from oily bases if high local drug concentrations are desired. For instance, 5% sodium sulfadiazine in a *glycerite of starch* base is said to show no inhibition of healing while providing good absorption of the drug.

BENTONITE SUSPENSIONS

Formulas employing bentonite are suggested for their possibilities as bases for sulfathiazole. Three formulas are given[38] as follows:

I

Bentonite	25.0
Zinc oxide	25.0
Cottonseed oil	25.0
Hydrogenated cottonseed oil	25.0

Mix until smooth, then add the sulfathiazole.

II

Bentonite	33.0
Triethanolamine	5.0
Water, qs	100.0

Incorporate the bentonite into a mixture of triethanolamine and water, then add the sulfathiazole.

III

Bentonite	25.0
Liquid petrolatum (low viscosity)	25.0
Petrolatum	25.0
Water, qs	100.0

Thoroughly mix the petrolatums, add the water and incorporate the bentonite. Then add the sulfathiazole.

The bentonite gel below is suggested[46] as a vehicle for carrying sulfathiazole to cutaneous lesions by topical applica-

tion. Such a gel is said to lead to oil-in-water type combinations with any available grease on the skin. An example of such a formula is given as follows:

Bentonite	10.0
Sulfathiazole	5.0
Water, qs	100.0

The sulfathiazole is agitated with the water before incorporation with the bentonite.

OPHTHALMIC BASES

An ointment base which is claimed to be excellent[47] for preparing ophthalmic ointments of any desired strength with the soluble sodium salt of the particular sulfonamide drug desired, is one which employs the following base:

Ten per cent cholesterin (cholesterol) is dissolved, by stirring, in a soft grade of white petrolatum which has been heated to 130° C. Stir until cool. Small portions of light liquid petrolatum may be used to soften the white petrolatum to any desired degree. In the preparation of the ointment, a solution of the drug is made in a quantity of water equal to at least 20% of the finished ointment. The aqueous solution is stirred thoroughly with the cholesterinated base. As the stirring continues, the ointment base begins to absorb water and as this occurs, the base loses its translucency and becomes opaque.

The finished ointment prepared as outlined above is white and assumes the consistency of sour cream. Slightly less water makes the resulting ointment less white and somewhat translucent; a bit more water makes it even more creamy. Probably the maximum water content which should be planned for ophthalmic ointments is 40%; 20% water content is said to be adequate.

Several other bases for ophthalmic "sulfa" ointment-emulsions have been suggested[48] as follows:

Base 1

Sodium alginate	4.0
Boiling water	75.0

Emulsify and strain, stir until cool.

Add:

Anhydrous wool fat	16.0
Petrolatum, white	78.0
Sodium chloride	1.0

(Dissolve the sodium chloride in 4 parts of water.)

Base 2

Sodium lauryl sulfate	0.5
Cetyl alcohol	8.0
Theobroma oil, U.S.P.	6.0
White petrolatum	20.0
Water	65.0

Use a water bath to melt the first four ingredients, and then add the water, stirring constantly.

Base 3

Liquid petrolatum	35.0
Spermaceti	13.0
Glycostearin*	10.0
Water	38.0

Heat the first three ingredients to 140° F., add to the water heated to the same temperature, and stir until cool.

In combining sulfanilamide or sulfathiazole with these three bases above, sift the drug and make a paste with an equal amount of boiling water. It may be seen that *Base 1* is the same one[9] that is used in the first formula listed under

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Another ophthalmic ointment base for sulfanilamide which is said[49] to give good results is identical to *Base 1* described above, except that aquaphor is used in place of anhydrous wool fat.

PASTES

Sulfonamides are occasionally incorporated in paste bases, usually with other medicaments.

The following formula is recommended:[50]

Soluble albucid (sulfacetamide)	5.0
Glycerin	100.0
Cod liver oil	10.0
Kaolin (fine)	80.0

Mix the albucid powder with the glycerin, then heat the mixture cautiously until the powder is completely dissolved; this usually takes about 30 minutes, the mixture being stirred from time to time. The heating is then discontinued; while the mixture is still warm the cod liver oil is added, being thoroughly stirred in. This solution is mixed into the fine kaolin sufficient to yield a smooth paste of the consistence of thick cream.

A "compound paste" formula containing sulfathiazole is given as follows:[20]

Copper sulfate	3 gr.
Zinc sulfate	2 gr.
Precipitated sulfur	5 gr.
Sulfathiazole	10 tablets, powdered
Zinc oxide	½ oz.
Starch powder	½ oz.
Soft paraffin	1 oz.

The strength of the sulfathiazole tablets in the above formula is not given.

In order to facilitate the application of sulfonamides, a base of Lassar's paste is given as follows:[51]

Zinc oxide, powdered		
Starch powdered	an	2 dr.
Hydrous wool fat		
Soft paraffin	an	2 dr.

Sulfanilamide may be incorporated in the above paste in concentrations of 20%, 10% and 5%.

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American Cholesterol Products, Inc.....353
American Colloid Co.....357
Anchor-Hocking Glass Corp.....267
Andresen, J. C.....336
Andrews Paper Co., H. P.....323
Armstrong Cork Co.....240
Ansbacher-Siegel Corp.....260
Aromatic Products, Inc.....Insert facing 252
Atlas Powder Co.....250

Baker Chemical Co., J. T.....Insert facing 292
Bridgeport Metal Goods Mfg. Co.....321
Broder, Harry, Inc.....245
Brown Bag Filling Machine Co.....322
Bush & Co., W. J.....342

Calco Chemical Co., Inc.....259
California Fruit Growers Exchange.....Insert facing 261, 349
Carbide & Carbon Chemical Corp.....254
Carr-Lowrey Glass Co.....261
Celluplastic Corp.....253
Chemo-Puro Mfg. Corp.....356
Colton Co., Arthur.....322
Consolidated Fruit Jar Co.....359
Consolidated Products Co., Inc.....357
Continental Can Co.....271
Cosmia Laboratories.....359

Dallal, D. S.....357
Distributing & Trading Co.....349
Dodge Cork Co.....256
Dodge & Olcott Co.....Insert between 272-273
Douglas Guardian Warehouse Corp.....263
Dow Chemical Co.....Insert facing 293, 270, 298
Dreyer, Inc., P. R.....257
Drury & Co., Inc., A. C.....354
Duche & Sons, Inc., T. M.....351
Dunkel & Co., Inc., Paul A.....326
Durlin Corp.....334
Duval Compagnie.....356

Empire Box Corp.....265
Ertel Engineering Corp.....319
Evans Chemetics, Inc.....246

Fairmount Chemical Co.....357
Felton Chemical Co., Inc. .Insert between 260-261
Fezandie & Sperrle, Inc.....356
Fine Organics, Inc.....355
Firmenich & Co., Inc.....Insert facing 260
Florasynth Labs., Inc.....Insert facing 309
Franks Chemical Prod. Co., Inc.....360
Fritzsche Bros.....Insert between 324-325

Gardner-Richardson Co. ..Insert between 268-269
General Drug Co.....Insert facing 253
General Electric Co.....252
Gibson-Jones Co., Inc.....348
Givaudan-Delawanna, Inc., Insert between 252-253
Greeff & Co., R. W.....351

Hagerty Bros. & Co.....351
Hazel-Atlas Glass Co.....302
Helfrich Labs., Inc.....Insert between 272-273
Heyden Chemical Corp.....Insert facing 269
Hooker Electrochemical Co.....244
Hopkins & Co., J. L.....328
Hormann & Co., F. R.....359
Horn, John.....350
Horix Machine Co.....321
Huisking & Co., Inc., Chas. L.....340

Illinois Water Treatment Co.....320
Industrial Chemical Sales.....Cover 2
Inland Alkaloid Co.....332
International Wax Co.....306
Interstate Color Co., Inc.....357

Jelly & Co., Walter H.....353

Kachurin Drug Co.....338
Kelton Cosmetics Co.....352
Kessler Chemical Co.....334
Kimble Glass Co.....Insert facing 244
Kohnstamm & Co., H.....Insert facing 268
Kolmar Laboratories.....294
Kurz-Kasch, Inc.....346

Lautier Fils.....326
Leeben Chemical Co., Inc.....359
Lemke, Co., B. L.....340
Lloyd, John T.....347
Lueders & Co., George.....251
Lusteroid Container Co.....320

Magnus, Mabee & Reynard, Inc.....255
Mallinckrodt Chemical Wks.....Insert facing 273
Malmstrom & Co., N. I.....247
Martin Laboratories.....Insert between 308-309
McKesson & Robbins, Inc.....350
Merck & Co., Inc.....262

Naugatuck Aromatics.....239
National Can Co.....242-243
New England Collapsible Tube Co.....237
N. Y. Quinine & Chemical Works.....249
Norda Essential Oil & Chemical Co.....264

Orbis Products Corp.....296

Package Machinery Co.....290
Parento Co., Compagnie.....Insert facing 308
Paris Cosmetics, Inc.....248
Parsons Imports; M. W.....330
Penick & Co., S. B.....Insert facing 272
Pennsylvania Refining Co.....Insert facing 245
Pfaltz & Bauer Co., Inc.....339
Pfizer & Co., Inc., Chas.....Cover 4
Pittsburgh Plate Glass Co.....322
Pneumatic Scale Corp., Ltd.....Insert between 260-261
Polak & Schwarz, Inc.....359
Powell & Co., Inc., John.....344
Pulverizing Machinery Co.....318
Purocaine Chemical Co.....352
Republic Filters, Inc.....355
Ritchie & Co., W. C.....Insert between 292-293
Robinson Wagner Co.....332
Ross Engineering Corp.....312
Schimmel & Co., Inc.....266
Seeley & Co., Inc.....343
Seydel Chemical Co.....339
Sherwood Refining Co.....336
Sonneborn Sons, Inc., L.....268
Stafford-Allen & Sons.....258
Standard Alcohol Company.....330
Standard Specialty & Tube Co.....323
Standard Synthetics, Inc.....272
Stokes Machine Co., F. J.....314
Stokes & Smith Co.....310
Sturge Ltd., John & E.....304
Swindell Bros., Inc.....269
Syntomatic Corp.....Insert between 292-293
Thurston & Braidich.....332
Tombarel Products Corp.....345
Torigian Labs., Inc.....359
Triangle Package Machinery Co.....316
Ungerer & Co., Inc.....Cover 3
U. S. Bottlers Machinery Co.....317
U. S. Industrial Chemicals, Inc.....Insert between 300-301
Vacuum Distillation Co.....356
van-Ameringen-Haebler, Inc.....Insert between 244-245
Van Dyk & Co.....347
Verley & Co., Albert.....241
Wahlert Products Corp.....322
Welch, Holme & Clark, Inc.....328
Whittaker, Clark & Daniels, Inc.....338
Will & Baumer Candle Co.....343
Wilson Laboratories, Inc.....340
Wolf & Co., Jacques.....354